October 1926 20 Cents

THE FLOWER GROWER

Published monthly by Madison Cooper, Calcium, N.Y.

The Magazine with a Mission

ESTABLISHED 1914

For all those who grow Flowers

Bloom of Catalpa Tree (Catalpa speciosa.)

(Photo by Fred Pollard, Tillsonburg, Ont.)

When you write out your order for Glads you most always "sort of hope the dealer will put in some nice extras" when filling the order,—now don't you? Therefore, after listing your requirements, if you very much want to get a start of some real choice variety of Gladiolus—

Tell Me About It

Pretty likely I may be able to slip in gratis just what you want. But anyhow "the asking's always good!" So don't hesitate about letting your wishes be known.

"SPECIAL OCTOBER SET"

5	Bulblets	Geraldine Farrar
50	"	Los Angeles
3	"	A. E. Kunderd
3	"	Mrs. P. W. Sisson
10	"	The Aristocrat
5	"	Break O' Day
10	"	Thomas A. Edison
10	"	Golden Salmon
5	"	Golden Frills
5	"	Nimrod
5	"	Gloriana
2	"	Minuet (Coleman's)
2	"	Ruffolace
1	Bulb (No. 5 size)	Los Angeles
1	Bulb (No. 5 size)	Nimrod

Price for entire "Special October Set" $10.00

Plump, Vigorous Gladiolus Bulbs and Bulblets. May I send you my new Fall price-list on Glads, issued in October? Liberal overcount—particularly on Fall orders.

Gladiolus Bulbs Per 100	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Blbts. Per 1000
Dr. F. E. Bennett	36.00	31.00	25.50	20.00	15.50	11.00	15.00
Dr. W. Van Fleet	6.75	5.75	4.75	3.50	2.25	1.25	1.50
Elora	6.00	5.00	4.00	3.00	2.00	1.00	2.00
Henry Ford	30.00	26.00	21.00	16.00	12.00	8.00	10.00
J. A. Carbone	15.00	12.50	10.00	7.25	4.50	2.50	4.00
John T. Pirie	24.00	21.00	18.00	15.00	11.00	6.50	8.00
Katharine F. Hess	7.00	6.00	5.00	3.25	2.50	1.75	2.50
Marie Kunderd	9.00	7.75	6.25	5.00	3.75	2.50	7.00
Marietta	17.50	15.00	12.50	9.00	6.00	4.50	6.00
Marshal Foch	7.75	6.75	5.25	3.75	2.75	1.75	2.75
Ming Toy	6.00	5.00	4.00	3.00	2.00	1.00	1.00
Mr. W. H. Phipps	50.00	42.50	35.00	28.00	22.00	16.00	16.00
Mrs. Leon Douglas	12.00	10.00	8.00	5.75	3.50	2.25	4.75
Richard Diener	12.50	10.50	8.50	6.75	5.00	3.75	5.00

GLADIOLUS BULBS per each

							Bulblets Per
A. E. Kunderd	10.00	9.25	8.25	7.50	6.25	5.00	0.75 per 1 6.00 per 10 57.50 per 100
Break O' Day	4.00	3.25	2.50	2.00	1.50	1.00	.25 per 1 2.00 per 10 15.00 per 100
Golden Frills	5.00	4.50	3.75	3.00	2.50	2.00	.40 per 1 3.75 per 10 30.00 per 100
Mary Jane	10.00	9.25	8.25	7.50	6.25	5.00	.75 per 1 6.00 per 10 50.00 per 100
Minuet (Coleman's)	10.00	9.25	8.25	7.50	6.25	5.00	1.00 per 1 9.00 per 10 80.00 per 100

Mrs. P. W. Sisson (Same price as Coleman's "Minuet")

May I make you a special price—a "Lot Quotation" on your requirements of some of the following bulbs or bulblets. (Please be sure to specify size of bulb preferred):

Alma Rubens, Beatriz Michelena, Beethoven, Betty Joy, Blanche Bollinger, Bobby, Don Juan, Dr. Christ Martz, Dr. Elkins, Dr. Nelson Shook, Fastidious, Gertrude Errey, Gladdie Boy, Gloriana, Giant Nymph, Halcyon, Hope Hampton, H. G. Wells, John D. Oliver, Lillian Gish, Milton Sills, Miss Madison, Nimrod, Nixe, Priority, Purple Queen, Robt. J. Kunderd, Sulphur Frills, Shell Pink, The Aristocrat, Wm. G. Badger, Wotan, Victor, etc.

TERMS: Cash with order. Transportation charges prepaid. Highest quality of stock. True-to-name. All stock offered and orders accepted—Subject to prior sale.

PANSY SEEDS: "Oregon Giants" (Mrs. Merton G. Ellis, originator); 1 packet (1,000 seeds) Finest Florists' Mixture—$1.00.

DELPHINIUM SEEDS: "Wrexham" strain. Large, and unusual 1 packet—$1.00.

CORRESPONDENCE PROMPTLY HANDLED

(Miss) Flora E. Breck
384 East 42nd Street, North
PORTLAND - - - - OREGON

A SURE WONDER GLADIOLUS

MRS. F. C. HORNBERGER

Awarded first prize for the finest spike at the Connecticut Gladiolus Society Quality Show.

Limited amount of stock offered. No bulblets.

SEABROOK NURSERIES
Louis G. Rowe, Proprietor
SEABROOK, - NEW HAMPSHIRE

Millions of Daffodils

There is no shortage in our fields. Millions of healthy bulbs can be supplied for prompt shipment.

These Four Varieties Increase in Value Year after Year

Conspicuus (Barri). Yellow petals, cup yellow edged red; $6 per 100, $50 per 1000.

Minnie Hume (Leedsii). White petals, lemon yellow cup; $6 per 100, $50 per 1000.

Recurvatus (Poeticus). White perianth, red eye; $4 per 100, $30 per 1000.

Alba plena odorata (Poeticus). Double, pure white; always popular; $7.50 per 100, $60 per 1000.

Mixed Varieties (Unnamed). For cutting or massing; $5 per 100, $40 per 1000.

A town lot or a small field can be made to pay handsomely by growing Narcissus flowers for sale locally or in larger towns.

Scores of other Daffodils, Tulips, and Iris are listed in my booklet, with other valuable garden material. Send for a copy.

George Lawler, R. D 6. Gardenville. **Tacoma, Wash.**

PUBLISHER'S ANNOUNCEMENT

Bulb and Subscription Offer

IF YOU want to do a friend a good turn; give him a better outlook on life; and introduce him to a hobby which may benefit him greatly in many different ways; send him (or her) a year's subscription to THE FLOWER GROWER and the mixed Gladiolus bulb collection, as per the Special Combination Offer below.

I have been growing the Gladiolus for about 20 years and have one of the best-balanced stocks in the world. My collections are improved each year by the addition of some of the finest varieties ever introduced.

OFFER 12 issues of THE FLOWER GROWER, (more than 500 pages of reading matter) and 120 guaranteed-to-bloom Gladiolus bulbs of many different varieties in all the colors of the rainbow. If you prefer you may have that greatest light pink variety LE MARECHAL FOCH. All these bulbs are grown in the Editor's own garden and sent with full details for planting and culture.

120 BULBS AND A YEAR'S SUBSCRIPTION **$3.00**, POSTPAID
(Shipped in November or December or at planting time in the Spring.)

Alternate Iris Offer { Those who prefer a collection of Irises will receive 20 or more strong, blooming plants of at least 8 different varieties. These are all high-grade and rugged varieties which have done well in the Editor's garden without special care or attention.

(Irises shipped during July, August and September.)

Send $3.00 in any form most convenient, with full name and address, and say "Bulbs" or "Iris." Madison Cooper, Calcium, N.Y.

NOTE:—These Combination Offers to Subscribers in Canada and west of the Mississippi River $3.30

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THE FLOWER GROWER

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF OUTDOOR SUMMER-FLOWERING PLANTS; AND FOR THOSE WHO ARE INTERESTED IN BALANCED OPEN-AIR ACTIVITIES

Published monthly on the first of the month by Madison Cooper, Calcium, New York

Subscription price:— One Year, $2.00; Three Years, $4.50; Five Years, $6.00; Single Copy, 20c.

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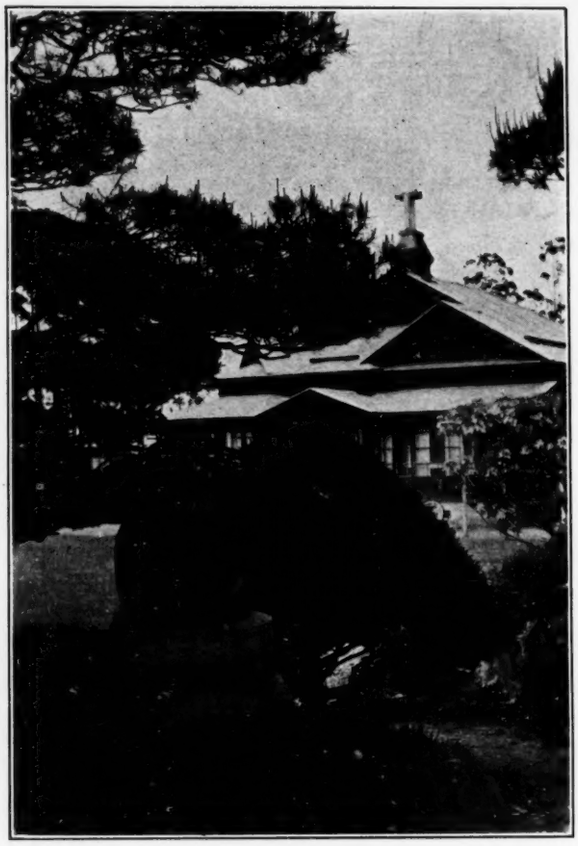
The Japanese Viewpoint in the Garden

BY HAMILTON M. LAING

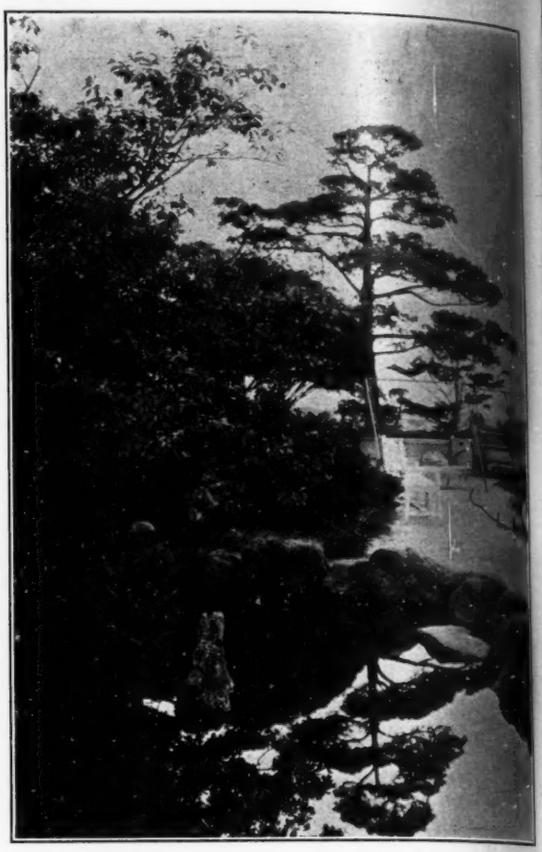
THE accompanying photographic studies of a Japanese garden were made in the city of Hakodate, Hokkaido Island, Japan, and are intended to show somewhat the viewpoint of the Oriental in these matters. The garden is the property of Mr. Alfred Denbigh. It was begun about forty years ago and is almost entirely the product of Japanese talent, though the present addition of garden seats, swinging lounges and hammocks to meet occidental taste, bring to it a touch of the incongruous. Built into the side of the hill that rises back of the city and commanding a view, in places, out over the lower city and the sea coast, it might be said to be a fairly good example of what the Japanese like so well to do in their artistic way.

The fondness of these people for the garden and the care of growing things is seen in their clever handling of miniature plots even down to the size of a tea tray or smaller; in which, in moistened cotton batting, they grow the "lawn" of sprouting grass-seed that is overtopped by the tiniest seedling Firs—mimic trees showing their reflections in a "pool" made of a bit of mirror, and with its tiny bridge and manikins thereon, etc.—all to us

A Stone Lantern standing by the path backed by the native Pines and overlooking a variety of close-cropped shrubbery



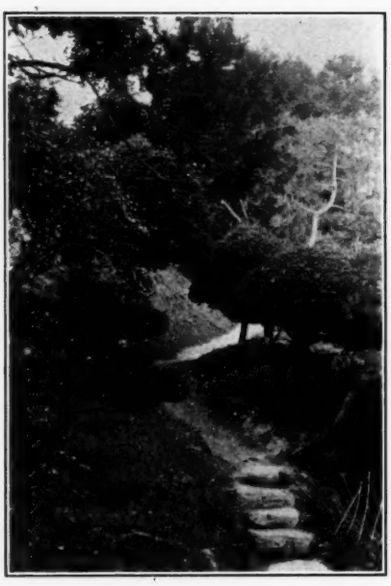
A Stone Lantern in a shady spot by a path leading to the door



In this view of the pool, a native Pine in its original setting mirrors itself beautifully. The seats and swings are a bit incongruous.

the play of children, yet a joy to the hearts of these folk whose lives are simpler—and perhaps happier—than our own.

IT WILL be seen that the Denbigh garden runs to a variety of flowering shrubbery rather than to a profusion of herbaceous plants. As the island of Hokkaido has a real Winter, many plants of southern Japan are forbidden, but many native shrubs and trees have been made use of,—the Pines, Larch, Maple and Cherry for example, being taken from their native hills nearby or built around in their original setting. As might be expected, the Cherries of several kinds are well represented, for the "Cherry Festival of Hakodate," held in early May, is the most splendid in Japan. The usual Hydrangeas, Snowballs and magnificent Wisterias are on hand, but it is plain that the Azaleas with blooms of many colors are the flowering standby and pride of the garden. These have been selected cleverly to provide a succession of bloom through the Summer.

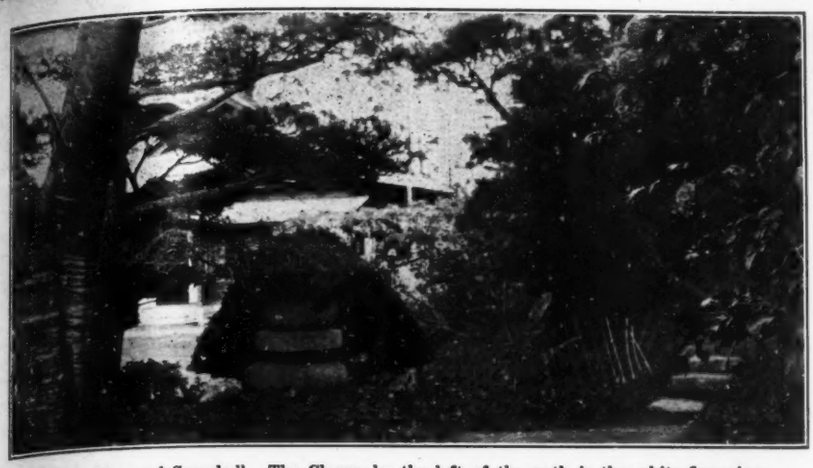


Every little path leads somewhere—to a new delight around the turn

An outstanding feature is the lack of straight lines and geometric patterns throughout the whole scheme. It is artless artistry. Every little path leads somewhere—always around a turn to new hidden delight. Even the wide pathway from the gate at the main entrance is not a broad highway to the door, but turns to lose sight of both gate and door. The whole place is a maze of lovers' lanes. No geometric figure had been prepared in advance by a landscapist here, and then worked out according to plan. It seems a greater artistry than that. Besides, geometric plans with pompous trees at attention in measured distances could not have fitted well into that broken hillside with its native Pines that stood as though to the manner born.

AMERICANS and Europeans plant trees and make them grow. The Japanese plant them and carefully tend them so that they will not grow. On account of this love for stunted, miniature trees, they cut and trim and hold back cunningly, and not only

The garden was built into the side of the hill. The flagstones have been thrown down too loosely to please the occidental mind; the tennis court on the bench above may be out of setting, but the lantern and shrubbery reveal the Japanese artistry.



Cherry, Pine and Snowball. The Cherry by the left of the path is the white-flowering species that has made the Cherry Festival of Hakodate the most splendid in Japan

The pool, rimmed by large uneven rocks and serving as a mirror to duplicate the Pines and White Azalea clump and other surroundings

shrubs are held to miniature size, but trees such as Maples and Pines as well. On account of its slow-growing proclivities, the black, or two-leafed Pines seem favorites. One advantage of all this is obvious. It gives a stability to the garden scheme in a slow-going land, for a rapidly-growing tree changes not only its own girth annually, but also changes conditions around it.

There was no concrete in this garden. Flagstones had been used instead—in some cases thrown down a bit too loosely to please the occidental mind. Even the pool was rimmed merely by a collection of large, irregular stones, and though this seemed one of the least successful features of the place, it at least very well served the purpose of a mirror.

One of the most truly oriental touches of the garden are the stone lanterns standing here and there in the shrubbery—lanterns of strange design hewn from the solid stone. On festive occasions candles are burned in the hollows provided.

An impression carried away by the visitors was that here was a garden that belonged—that fitted its place. It had largely come from the woods and hills. It had an air of permanency and of age without decay; it was beautiful and had not cost a fortune—all things that are well worth consideration by home builders of moderate means who are plotting and planning for the future in America.

Narcissus Cultural Directions and Varieties

THE various garden forms of Narcissi are among the best subjects for the spring garden. They are hardy and reliable, standing frost even after they have come into flower, and are equally effective outdoors or as a cut flower. They have a long blooming season, two months elapsing between the earliest of the yellow Trumpets and the last of the Poets' Narcissi. Once planted they will bloom for many years without further attention and their culture is extremely easy. Formerly within the reach of every householder, the restrictions enforced by the Federal Horticultural Board has cut off the main source of supply and made all but the very common sorts a rich man's luxury.

While Narcissi prefer a light sandy loam, they will give good results in our heavy clays, particularly if a little sand is filled in about the bulb when planted. They may be put in the ground any time between July and October but the sooner the better, as the bulbs do not keep well when exposed to the air. The general rule for all varieties is to plant them six inches apart and to have the top of the bulb three inches below the surface of the ground. If the soil is heavier, however, the bulbs need not be planted so deeply, and if it is lighter they should be planted deeper. With small-bulbed sorts the distances apart and the depth of covering need to be decreased. When in doubt plant them deeper, as it will do the bulbs no harm, and will merely make them come into flower a little later. Bulbs have been known to flower successfully when covered with nearly two feet of earth.

The smaller sorts are easily planted with a dibble, a pointed stick a little larger in diameter than a broom handle. If many bulbs are to be planted, it is a convenience to have one made from an old spade or shovel handle with a cross bar six inches from the point for the foot. When bulbs are being planted in the grass the dibble may be used, or a slant-wise cut may be made with the spade and several bulbs inserted.

One caution only needs to be given. Do not use manure, particularly fresh manure of any kind, as the bulbs are very sensitive to it. It is best not to use manure even as a mulch, though this is often without injury if it is removed early enough in the Spring. The very best mulch is marsh hay, but if this is not obtainable, leaves weighted down with a few branches, or sphagnum moss or cocoanut fibre may be substituted. The bulbs may, in fact, be left without any mulch, although the smaller and shallower-planted sorts will sometimes be injured in the alternate freezing and thawing to which the ground is subjected.

Narcissi are particularly at home when grown in the grass. That is where they grow naturally, and if the grass does not need to be mowed until after their leaves mature, they will care for themselves without further attention. All of the hardy kinds can be used; the Trumpet Daffodils for well-drained slopes and Poets' Narcissi for the heavy wet soil of pond margins. If more than one kind is to be used, each kind should be planted separately, otherwise an unpleasant, spotty effect is obtained. Narcissi are most effective when planted in bold, irregular clumps of 25 to 100 with a few outlying individuals.

VARIETIES FOR THE HOME GARDEN

The following are all standard, reliable varieties, comparatively low in price:

Autocrat (Incomparabilis). Rich yellow, cup very wide at the mouth, tinged with red. Early.

Beauty (Incomparabilis). Perianth light yellow, cup deeper yellow, shaded with reddish orange. Splendid cut flower. Naturalizes well.

Emperor (Trumpet). The standard, all-yellow trumpet. Old and reliable.

Empress (Trumpet Bicolor). Perianth sulphur-white, trumpet rich yellow. Dependable for naturalizing, forcing, or growing in the garden border.

Seagull (Barrii). Perianth pure white, cup pale yellow edged with orange.

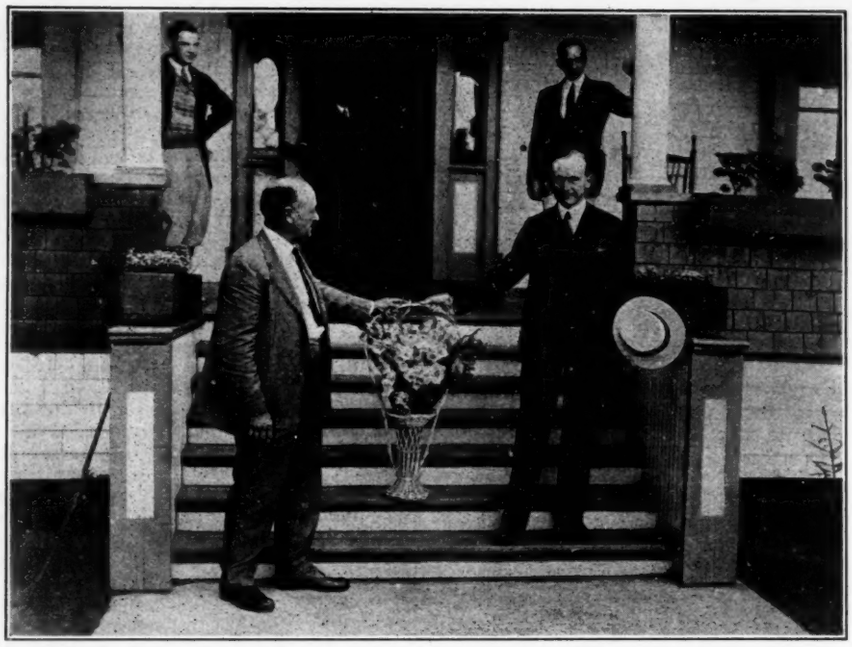
Rugulosus (Hybrid Jonquil). The best of the Campernelles. Fragrant, free-flowering. Naturalizes well.

Sir Watkin (Incomparabilis). One of the largest of this section. Free bloomer. Very early.

White Lady (Leedsii). Perianth white, cup pale canary-yellow.

Von Sion (Double Trumpet). Sometimes called Telamonius plenus. Standard for forcing. Naturalizes well, though flowers are often streaked with green.

Many Narcissi are well adapted for forcing for winter bloom in the house; the Paper-white being one of the easiest to handle.—(*Missouri Botanical Garden Bulletin*)



President Coolidge Recognizes and Honors Floriculture by Receiving Its Representative

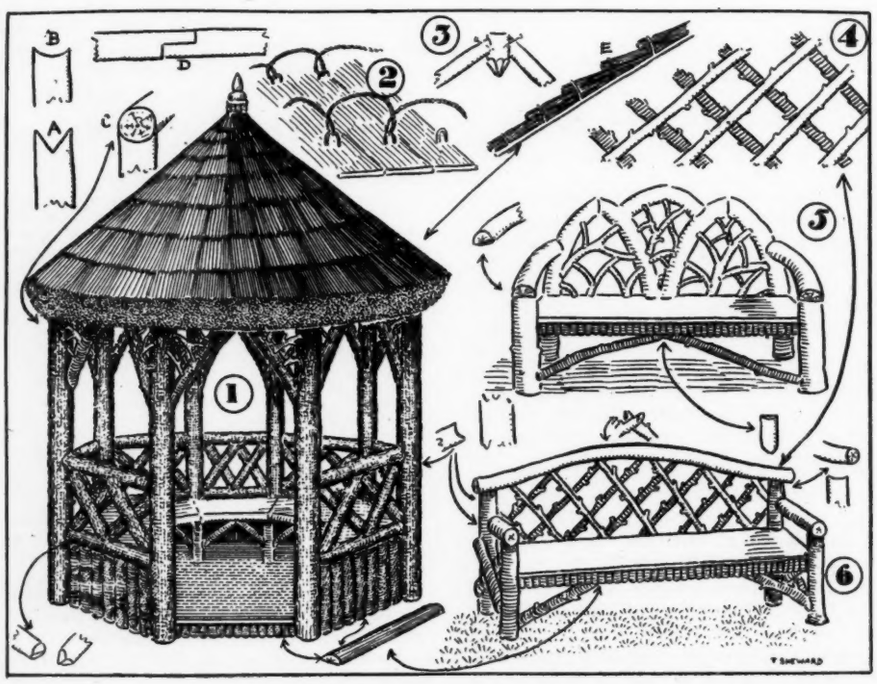
A. E. Kunderd of Goshen, Indiana, journeyed from the Gladiolus Show held at Rochester, N.Y., in August, to the summer White House at Pine Camp in the Adirondacks and presented to President Coolidge a basket of the choicest prize winning blooms from his exhibit, which won the sweepstakes medal. Among these were several of a new seedling named in honor of the Nation's gracious First Lady.

Rustic Work for the Garden

BY THOMAS SHEWARD

RUSTIC WORK, when properly constructed, forms an attractive feature in any garden; but to be most effective it should be well planned and put together.

There are a great many things that can be designed in Rustic Work, such as Summerhouses, Arches, Pergolas, Seats, Fences, Gates, Pigeon Houses, Dog Kennels, Steps, Edging for Borders, Bridges, Tubs, Hanging Baskets, Window Boxes, Plant Stands, Tables, etc.



The material generally used is rough branches, bark, poles, and slab wood. In making Tables and Seats, also some designs of Summerhouses, rough and dressed lumber is used, but generally only rough branches are necessary. Generally, the greatest difficulty for amateurs in making Rustic Work is to get the parts to fit together neatly.

In constructing the Summerhouse, shown at I in Diagram, for instance, nearly all the cuts are made one way, as shown at A, B, C, and D. The cut A is made with a saw, then this is rounded off, to fit as at C, with a gouging chisel. Joints are generally made as at D. Split poles are used around the sides of design, I; also on the front of the Seats, 5 and 6.

The roof of the Summerhouse shown is thatched with wheat straw, which is placed on in layers as at E, and fastened to a board roof, with string and staples, 2. The roof can be trussed with poles or scantlings which are secured to a round piece of wood at the top, 3.

This Summerhouse, when covered with climbing plants, will make a cool retreat for hot summer days. The two Seats shown are simple in design, and are made from rough poles, with a seat of dressed lumber painted green.

Sedum Acre

Sedum Acre of the natural order Crassulacea and of which the species are numerous is a native of Europe. Having been brought to America for garden purposes, it has escaped and may be found growing wild in many places. The plant is known in many localities by different names such as—Gold-Moss, Birds-Bread, Creeping-Charlie, Gold-Chain, Tangle-Tail, Poor-Man's-Pepper, Treasurer-Of-Love, Love-Entangled; and by the old English name, Welcome-Home-Husband-Though-Ever-So-Drunk.

Gold-Moss is now recognized as the standard common name. The bright-yellow, star-shaped flowers are borne on low-growing stems and the plant spreads by means of under-ground creeping root-stocks.

It is a good plant for dry places and for planting at the edges or in the crevices of flagstone walks or in the crevices of rock walls and is an excellent cemetery plant owing to its dwarf, compact form and free flowering qualities. It is well adapted to dry places since the bulk of the tissue is succulent, forming a water store and protected from evaporation by a thick skin.

The standard common name applied to Sedum is Stonecrop.

LAMBERT COULTER, (Iowa).

Seasonable Work for October

BY THOMAS SHEWARD

THIS is the month for planting Wallflowers, Forget-me-nots, Polyanthas, Primroses, Brompton Stocks, Bulbs, etc., to replace summer-bedding plants, and to flower early next Spring.

Clear the beds of all summer-flowering annuals, and dig them over, then plant for spring effect. Plant in masses of one color if possible and try to plan a color scheme to get best effects. In the diagram is shown the way this is done. There is a great quantity of material to select from, and by a careful selection of spring-flowering Shrubs, Bulbs, Wallflowers, Primulas, etc., some beautiful effects could be produced.

Many of these things can be easily grown from seed, especially such things as Wallflowers, Forget-me-nots, and Primroses. Here is a list of good things to remember when placing your order for seeds next year.

WALLFLOWERS:—*Golden Mascot*, a fine, large-flowering, golden-yellow, with a wonderful scent; *Fire King*, rich orange-red, with very large flowers; *Red Emperor*, best red; *Eastern Queen*, salmon-red; *Phoenix*, best early yellow; *Ivory White; Primrose Dame*, pale-yellow, sweet-scented; *Primrose Monarch*, deep tone of yellow; *Ruby Gem*, fine ruby-violet; *Cloth of Gold*, a rich yellow.

Wallflowers can be easily raised from seed in large quantities at very low cost and should be used in large qauntities for spring-bedding.

FORGET-ME-NOTS:—*Royal Blue*, a rich, dark blue; *Blue Eyes*, bright-blue; *Star of Love*, large flowering; *Ruth Fischer*, very large flowers; and *Roll of Honor*, the best new Forget-me-not.

BROMPTON STOCKS:—Sow *Emperor* or *Queen* strain for spring flowering.

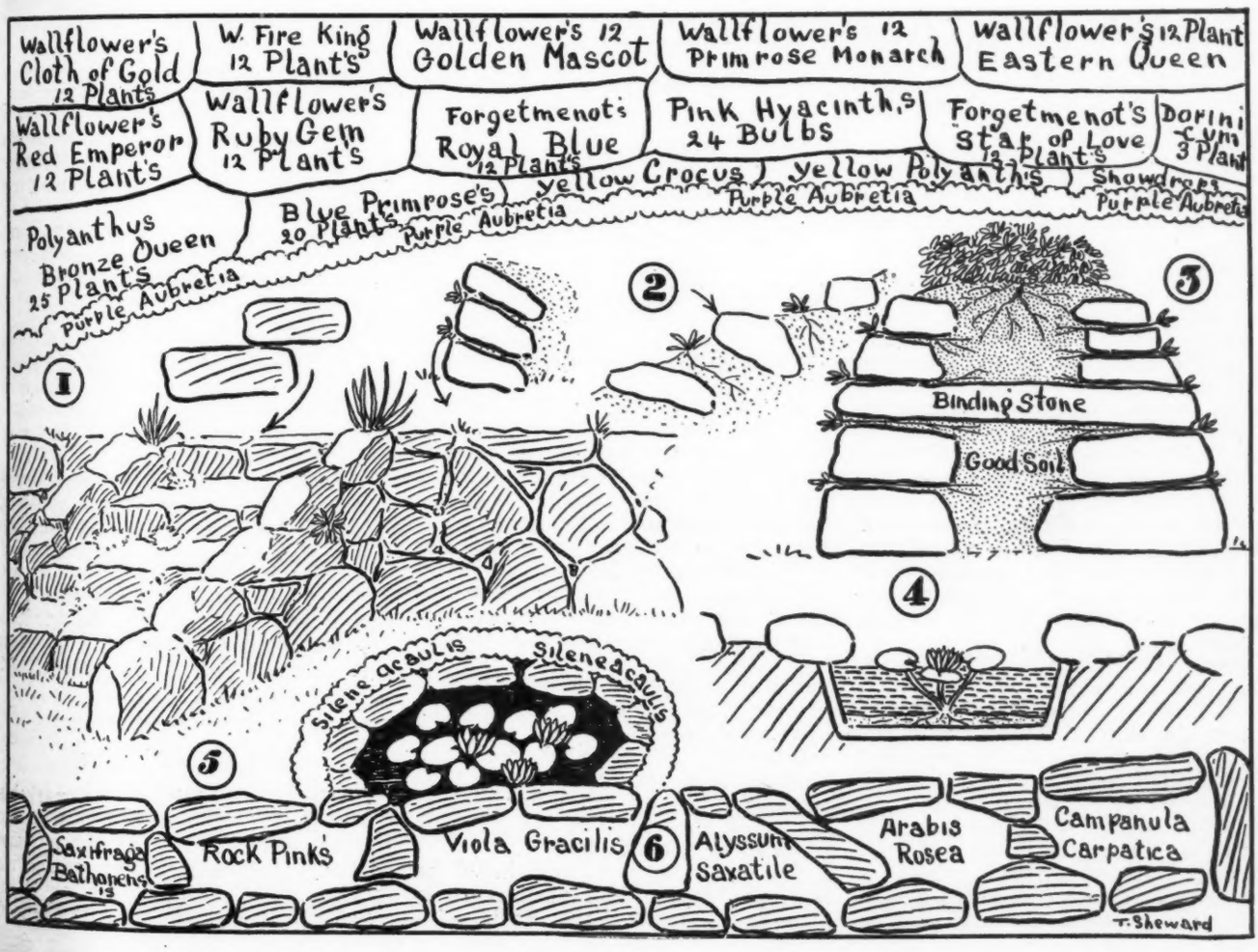
PRIMULA SIKKIMENSIS, (Sikim Primrose):—Primrose *Crimson King*, a new large-flowering crimson variety; P. *Harbinger*, white; P. *caerulea*, (Blue Primrose); and the *Munstead* strain of bunch Primroses, which include many new colors, such as rich-orange with pale yellow eye; pale-yellow with orange center, and many fine combinations.

COWSLIPS are worth growing, especially *Golden Giant*, and other improved varieties.

ROCK GARDEN:—It is a good time now to make a Rock Garden so that it will be ready for planting in the Spring. Use large rocks if possible, as these give best effects, and set them in the soil, as shown at 2. If you have no space for even a small Rock Garden there is often a place where you can build a retaining wall, or stone steps, I, which is a good substitute.

Another way to find space to grow Rock Plants is shown at 3. This is a dividing wall, the center of which is filled with good soil, and Rock Plants are grown between the stones. On top of the wall a hedge could be planted, of Lavender, or Fuchsia riccartoni, if desired.

Still another way to make a Rock Garden is to arrange this in front of a perennial border as shown at 6. This is very effective, especially if a few small Pools are made, about two and a half feet in diameter, by setting in small casks, 4, and planting Waterlilies in them, then planting around the sides of the Pool with Stachys corsica, or Stachys lanata.



The Fruit Grower and His Problems

Conducted by Ralph A. Van Meter
Professor of Pomology, Massachusetts Agricultural College
Amherst, Mass.

Notes on Fruit Storage

BY R. A. VAN METER

NO GARDENER with a good crop is satisfied unless he can prolong the season of that crop to the utmost. Most varieties of Fruits ripening late in the Fall may be stored at least for a time. Apples, Pears, and Grapes are the Fruits which may be kept most easily for winter use.

Storage for home use is not a very complex matter. There are a few conditions which must be met and the varying success with which Fruits are stored depends upon the degree in which these requirements are satisfied.

Careful handling, the proper temperature, and an adequate moisture supply are the most essential things to be kept in mind, and there are many methods of storage which are successful. Cellars with furnaces in them are too hot and too dry. A corner with a window may be partitioned off at small expense, and such a "cold room" often forms a splendid storage.

HANDLING FRUIT FOR STORAGE

One of the most important factors in successful storage is careful handling at harvest time. Bruised Fruit soon decays and gardeners lose more Fruit from rough handling than from most other causes.

Even slight bruises, which are caused by pouring Apples or Pears from one container into another or by dropping Fruit carelessly into the picking basket, may greatly shorten the storage season by making it possible for decay organisms to pass through the injured tissues.

Picking baskets, or pails, or bags, should be examined to see if there are any slight projections inside which might puncture the tender skin of an Apple. Careful fruit growers usually line their picking baskets with burlap to cover all projecting edges and points.

Fruit which is not to be consumed immediately should not be tossed into the basket or thrown in carelessly. It takes little longer to be careful and care counts for much in storing Fruits.

Stems should be left on the Fruit. The rough handling which pulls a stem from its place nearly always breaks the skin at the bottom of the cavity and enables the ever-present organisms of decay to gain a foothold.

Sprayed Fruit keeps better and longer than Fruit which has been neglected, even when the Fruit is without blemish. Likewise, Fruit which is sprayed in Midsummer keeps longer than that sprayed in early Spring only; for enough spray material still adheres to the skin to give a measure of immunity from rots.

The Fruits which are highest in quality—perfect, well-colored specimens—keep longest, and oftentimes it is advisable to sort them out and store them separately. When one Fruit decays, it tends to spread decay to its neighbors, and a few bruised or blemished Apples may shorten decidedly the storage season of a whole barrel of otherwise perfect Fruit.

EFFECT OF WRAPPING THE FRUIT

Wrapping selected Fruits in paper will extend their storage season and favor perfect keeping. Even a newspaper wrapper helps by isolating each Fruit and preventing the spread of decay by contact. Fruit growers use special fruit wrappers which usually are treated with certain oils, to prevent scald in storage. Scald appears in storage as a brownish discoloration of the skin, which is followed by a rapid deterioration of the Fruit.

Scald is most commonly found in green or yellow varieties and on the green sides of red sorts, but may appear on any part of almost any variety. Scald is caused by gases generated by the Fruit in ripening. These specially-oiled papers absorb the gases before the Fruit is injured.

STORAGE TEMPERATURES

Garden Products fall into two classes as to storage requirements. A few, like Beans and Squashes, keep best in a dry place where the temperature is not too low. Apples and Pears keep best at temperatures just above freezing.

No way is known to stop ripening processes entirely and to keep Fruits for an indefinite time. Low temperatures merely check the rate of ripening and delay the time when the Fruit becomes overripe. The lowest temperature which can be maintained without danger of injuring the Fruit by freezing is, in general, best for the storage room. Low temperatures also check the development of rots.

If the cellar or storage room is warm at harvest time it sometimes is best to place Fruit for a time in an open shed where there is plenty of ventilation. If the windows of the storage room are left open the temperature will soon fall below that of the outer air and then the Fruit is ready to be taken inside.

Storage room windows should be left open in the Fall until there is danger of freezing the Fruit. Investigations have shown that it is not necessary to close the windows even in daytime for very little of the warmer and therefore lighter outside air descends into the cellar. When freezing weather arrives the windows must be closed at night or partly closed all the time;—just enough cold air being let in to keep the temperature down and to insure ventilation.

It is easy to maintain a temperature of 35° F. in cold weather in a well-ventilated storage, but not so easy to provide proper storage conditions in the warmer season following harvest. A little attention to cooling the Fruit as soon as possible after picking and to maintaining the lowest temperature possible early in the season will retard ripening at that time and greatly prolong the storage life of the Fruit. A noted fruit grower who has stored Fruit for many years has declared that twenty-four hours in a warm place after harvesting will shorten the storage period by about six weeks.

MOISTURE IN THE STORAGE ROOM

Given the proper temperature, the next most important thing is to keep the Fruit from becoming too dry. Unless the air is fairly moist, Fruit in storage is likely to shrivel and lose that sprightly flavor so much to be desired. If air from a furnace room gets into the storage room it will almost certainly make the room too dry. Ventilation of the storage room should be from outside unless it becomes necessary to let in some warmer air to prevent freezing.

When it is known from experience that a storage room is rather dry, moisture may be added by pouring a little water on the floor, or even into the storage boxes or bins. Moisture invites decay when the temperature is high, but it is not to be feared at low temperatures. When the first signs of shrivelling occur, some attempt to moisten the air may be made.

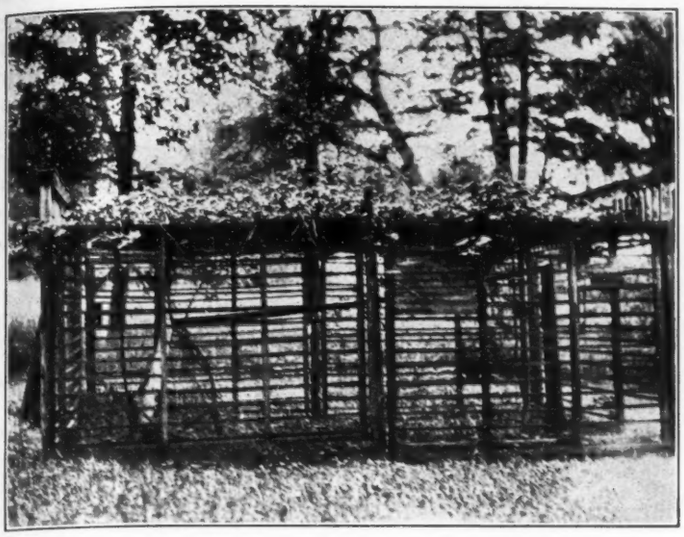
VENTILATION

Ventilation is essential at all times in the storage room. Gases are given off by Fruits in ripening and unless they are removed from the immediate vicinity by stirring the air they may do some damage.

In storages cooled by ventilation, however, this is not often a problem, for it is taken care of in keeping the room cool. It is only in periods of cold weather when the windows are closed that some thought should be given to ventilation. If the windows are thrown open occasionally on warm days there will be little trouble from this source.

The Concord Grape

THIS is one of the most remarkable of all varieties of American fruits. Its introduction made possible a Grape industry in America and marked its beginning. *Concord* with a few of its seedlings, comprises seventy-five per



The Original Concord Grapevine, Concord, Mass., Aug., 1926

The inscription reads:—"I looked about to see what I could find among our wildings. The next thing to do was to find the best and earliest Grape for seed and this I found in an accidental seedling at the foot of the hill. The crop was abundant ripe in August and of every good quality for a wild Grape. I sowed the seed in the Autumn of 1843. Among them the Concord was the only one worth saving."

cent of all the Grapes grown east of the Rocky Mountains.

Its adaptation to a wide range of soil conditions is a notable characteristic. *Concord* will succeed on almost any soil adapted to Grape-growing, and will out-yield most of the varieties that have chosen that soil as their special field. Its productivity, disease resistance, and shipping qualities, in addition, make *Concord* the leader in nearly every Grape section of the East.

Concord originated more than seventy-five years ago as a seedling in the garden of Ephraim W. Bull of Concord, Mass., and the original vine is still standing. The seed of a wild Grape was planted in 1843. The first fruit was borne in 1849 and soon attracted attention. In 1852 *Concord* was exhibited before the Massachusetts Horticultural Society and in 1854 the new variety was introduced by Hovey and Company, of Boston. Almost immediately *Concord* appeared on the variety lists of the American Pomological Society as a promising new Grape, and in 1858 it was placed on the list of Grapes recommended for cultivation. It is still there. In 1865 it was awarded the Greeley prize as the best Grape for general cultivation.

Concord is a standard variety for the home garden in almost every section. Some other Grapes are higher in quality but *Concord* is still the most reliable cropper. In the northern range of the Grape belt, the season is a little too short for this variety, however, and it should be superseded by earlier-ripening varieties. Likewise in the extreme south it becomes more susceptible to pests and is not so popular as local varieties.

Fall Planting of Raspberries

IN SECTIONS where the Winters are not too severe the fall planting of well-ripened Raspberry canes may often be done to some advantage. An early start in Spring is highly desirable and fall-set plants are ready to get under way with the first warm weather, before the soil is dry enough for spring planting.

The weak, spindling canes that grow along the edges of the Raspberry rows should be avoided in selecting plants for a new patch. If they start at all in the new location it may take a year or more longer to establish the new rows and nothing is gained. It pays well to use only strong canes with good pieces of root attached.

It is an aid in selecting disease-free plants to examine the old rows before the leaves change color and mark mosaic-free spots from which to select plants. After the plants are set, the canes should be cut back to within a few inches of the ground. Leave just enough cane to mark the row. The root is the important thing and spring growth from the root should be encouraged. If the short stub of cane is allowed to produce branches they usually set fruit the first year. This so devitalizes the root that no shoots may be produced. The less cane left, the better.

If material is available, a mulch over the new-set rows should insure their safety through the Winter. Any rubbish which has accumulated about the garden may be used as a mulch, but weeds should be avoided if the seeds have ripened.

Storing Peaches

Peaches may be kept in cold storage for a time in very good condition. Storage offers to the gardener, who is within reach of cold storage facilities, an opportunity to extend the season of a favorite variety well past its usual ripening time. Peaches for storage should be picked before they have fully softened on the tree—when "hard ripe"—and Fruit should be selected which is entirely free from signs of brown-rot infection. Sprayed Fruit will keep longer than Fruit that has been neglected. It should be placed in storage as soon as possible after it comes from the tree.

Well-grown Peaches will retain their appearance for a period of six weeks or more when properly stored, but the flavor seldom lasts so long. Two or three weeks is usually the limit and even then some of the flavor may be lost.

Tripod Stepladders

The tripod or three-legged stepladder is a convenience in harvesting Fruit which has not yet been discovered by many gardeners. In any work where it becomes necessary to set a ladder on an uneven surface the tripod ladder is steadier and safer than the ladder with four legs. Three points bearing on the ground are much better than four.

The demand for tripod ladders is such that many dealers do not carry them in stock, but any hardware man can get them on request. They may be had in lengths ranging from three to twelve feet and the price usually is lower than that of ladders of the other type. A tripod stepladder may in some cases, pay for itself in a very short time.

Two New Sweet Apples

In the course of the apple-breeding work at the New York Experiment Station two new sweet Apples have appeared which are recommended for home planting by the station. They are worth a trial by those who are fond of sweet Apples and find the older varieties wanting.

Sweet Delicious is a cross between *Deacon Jones* and *Delicious*. It is a red Apple introduced in 1923 by the New York Cooperative Fruit Testing Association. The Apples are described as large and attractive in size, color and shape, with the sweet aromatic flavor of *Delicious*.

Sweet McIntosh is another red Apple introduced at the same time. It is a cross between *Lawver* and *McIntosh*. Except in flavor, this Apple is said to resemble *Lawver* more than *McIntosh*. *Sweet McIntosh* is rated as a little higher in quality than *Sweet Delicious*, but a little smaller in size.

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"Wherefore by their fruits ye shall know them."—JESUS

"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."—ZOROASTER

Tolerance,–Basis of All Progress

THE Glad Philosopher this month pleads for tolerance in religion. Good. We need tolerance in religion;—and we need tolerance in many other things. Narrowness and bigotry have no place in our twentieth-century civilization. But, sad to relate, narrowness and bigotry have not altogether been thrown off by some members of the human family; hence a word of caution and a bit of expatiation.

Some readers of THE FLOWER GROWER have written me that they note a religious atmosphere connected with some of the editorial expressions in this magazine. I am, of course, glad to hear this, but I do not take much credit for the religious part of it. Never was a church member in my life, and attend church but seldom, and what I know about the good book is mostly second-handed by reading the writings and quotations used by others. But when it comes to tolerance in religion I do claim to be there with the goods. If there ever was a more tolerant individual on the subject of religion, I have never met him.

BUT what does tolerance in religion mean? It means that we ought to consider the other fellow's religion just as good as our own if he lives up to it and delivers the goods in the form of better morals, better activities, and a broader sympathy with the works of his fellows and the works of Nature. One religion should be as good as another if they both teach equally, better ways of living, and incidentally teach an interest in the things which are inspirational and really worth while.

Tolerance is surely the basis of all progress. Without tolerance for the other fellow's viewpoint we get nowhere. But this does not mean that we should believe the other fellow right in everything although we should sympathize with him in his aspirations, his ideas of what is right or wrong, and how he arrives at his results. If we will but do this it is a long step toward agreement on what constitutes progress toward the ideals of existence to which we all aspire.

GET the other fellow's viewpoint,—his ambitions, aspirations, and ideals, if he has any. Don't accuse him of selfish and inhuman motives without knowing what he is thinking about. Few persons but who have ideals, be they ever so crude; and if we can only ascertain those ideals we may meet on common ground with our Brother who doesn't perhaps agree with us in all things. If we find it necessary to combat the ideals of others, let us do so with the principles of a true sportsman in mind, and not with hate or malice. In short, fight because we find it necessary to fight and not because we hate.

Tolerance is, indeed, the basis of all progress. When we begin to understand the other fellow, even though we may disagree with him at the time, we begin to arrive at a mutual understanding which may eventually lead us to the great millennium, of which we hear so much, but which seems so far away.

MADISON COOPER

Fire Prevention Should Be Taught

THE anthracite coal strike brings other fuels into use and consequently increases the fire hazard and this fact should be realized by all. Soft coal, if substituted for hard coal, is especially dangerous in the hands of an unskilled person. Soft coal burns more quickly, makes more flame, and more gas, and more soot which will cause chimney fires. Smoke pipes leading to chimney are often over-heated in this way and may ignite woodwork or other inflammable material by radiation. Woodwork near furnaces and stoves should be shielded with metal, with a liberal air space between the metal and the woodwork. Soft coal is also subject to spontaneous ignition in storage, although seldom; but it should never be piled near a furnace or against a wooden retaining wall.

Many oil burning equipments have been installed, both for heating and cooking. Those operating on the gravity feed system, whereby the oil supply is higher than the burner, are more dangerous than where the fuel supply is delivered to the burner by suction, from an underground tank.

Oil stoves should be filled in daylight and away from fires, and they should be placed some distance from walls, curtains, and inflammable furnishings. The portability of such devices increases the danger.

Explosions may also be caused by defective wicks which do not fill the wick tube. New wicks should be frequently installed and they should surely fit the tube.

IN THIS connection the Editor can tell a joke on himself, as he is always pleased to do on occasion.

I left Mrs. Editor in our neighboring city on a shopping tour, and came home late in the afternoon. Just had time to go into the house, light the burner under the teakettle and get to the office in time to sign a few letters. BUT,—I forgot to go back to that burner and turn it down to proper combustion height. Result:—When I got back to the house about half an hour later the house was blue with smoke and black with soot, and when Mrs. Editor returned what she said will remain in my memory for a long time, and I heard nothing but "curtins, curtins, curtins" for many days.

But I was lucky. That oil stove had a perfect right to explode or catch the house on fire, but it didn't. When I turned the wick down it would not go out. I was obliged to smother the flame with a gunny sack and the woodwork was scorched adjoining the tank, and I guess the oil in that tank was pretty nearly boiling hot.

Well, we cleaned house twice last Fall, so perhaps we can put off the regular spring cleaning.

And the joke of it was, if there was any joke about it, that the Editor was especially censured be-

cause of the fact that he is "always so careful." But my excuse was, and I guess it is a valid one, that I am trying to do the work of two people, perhaps more, and when a person is rushed most anything is likely to happen.

But, friends, the fire waste in this country is appalling, and much of it is from causes which are about as inexcusable as the little personal experience related above. We get careless in the handling of fire, because we are so familiar with it. And naturally fire gets a bit careless in how it handles us;—once in a while.

MADISON COOPER

The Mind and Health

MRS. TAYLOR tells us in the Bird Department this month how her Birds were the means of helping her to a recovery of health. She even doesn't hesitate in stating that they helped her more than did the doctor, but this is no criticism of the doctors;—only just a mere statement of fact.

A sure way to prolong an illness is to think about it; worry about it; tell all your friends about it; and imagine that you are far sicker than you really are. Many people seem to delight in telling of their infirmities and troubles. You probably know of such a person or persons, and did you ever know of such a person being much use to themselves or to their friends? But this is teaching a lesson rather by indirection. It would be better to tell the bright side of it as has Mrs. Taylor. There is a grave and important lesson of life to be gleaned from what she tells us about her recovery from the influenza, and it might be suggested that it is not necessary that one should have a "Little Patch o'Paradise" as does Mrs. Taylor, nor is it necessary that one should be a Bird lover. The mind, if strong enough to do so, can concentrate itself on any interesting subject and to a great extent forget and overcome the infirmities of the flesh.

You know of a person, (or persons, or perhaps many of them,) who is a weakling physically, and yet with a mental activity and with an endurance to accomplish, which is far greater than is his or her neighbors of robust, physical strength. Why? Because the mind is the master over matter. And I want to declare again that I am not preaching for any cult or writing propaganda in favor of any particular sect or organization. Just a plain matter of common sense and something that can be demonstrated in your own experience if you care to observe.

The lesson can be taken even further and it may be suggested that when one has a real life work; a real mission; and an understanding of the purposes of life; it is, for the most part, easy to overcome physical handicaps. You know of people who are so busy that they have no time to be sick. You know others who have few duties and obligations and so little to interest and busy them that they have nothing else to do than worry about their troubles, real and imaginary.

I hope that this little preachment does not take too pessimistic a turn. Perhaps I should have confined myself to the bright side of the picture and told only about the possibilities of the right mental attitude, but I just thought it would make it a bit clearer to tell the other side so as to get the contrast.

MADISON COOPER

Misguided Nature Lovers

THAT a worthy cause may suffer more at the hands of its friends than at its enemies is well exemplified by a letter recently received from an organization calling itself "The National Life Conservation Society," by Mary Handel Stoddard, Chairman, Plants and Flowers Committee. Just read what she has to say and my reply thereto:

> "As it seems strange that your magazine THE FLOWER GROWER, approving of conservation of Nature, also gives space (p. VI in Dec. 1925 issue) to the advertisement of Ralph W. Shreve, of Farmington, Arkansas, which offers to commercialize native wild plants and flowers, we, as an organization working for the conservation of plant life, which is in grave danger of extermination, would like to be advised if the above-mentioned advertising policy meets with your unqualified approval."

My answer does not evade, quibble or dodge. Here it is:

> "If you will pardon the frank statement, you have, in my opinion, an entirely erroneous conception of the conservation and protection of wild flowers, and it appears altogether futile for me to discuss the matter with you or explain my own position, because of the very arbitrary stand which you have already taken.
>
> "And I don't mind telling you that if you, as Chairman of the Plants and Flowers Committee represent the attitude of your organization, the organization stands for a very narrow policy.
>
> "You don't know Ralph W. Shreve, of Farmington, Arkansas, or you would not make any such comment as you have in your letter. Why don't you ascertain the facts first before attempting to criticise? Now I guess you will know that I am independent above all things, and I want to say further that I resent your interference with my business policies so far as THE FLOWER GROWER is concerned without knowing what you are talking about. Better post yourself first before attempting to criticise those who are probably doing much more than you and your organization are doing for the cause which you imagine you represent.
>
> "I really don't believe that you would write the letter you have written if you were a continuous reader of THE FLOWER GROWER. Doubtless some of my narrow-gauged friends have called your attention to the particular advertisement in question and hence you thought you were performing a real duty by writing me as you have.
>
> "It would seem that what I have said above has answered your letter as you make out no detailed case nor do you do anything other than criticise an advertisement because it advertises wild plants and flowers for sale. Better go into the facts of the case and write me more fully, and I will be glad to explain just as fully as you write."

Perhaps I could have been a little more diplomatic in what I had to say to the lady, but honestly I think she deserved it. Altogether too much criticism is delivered at people who do not deserve criticism, but praise instead. Brother Shreve is doing a very meritorious work in his sphere of activity and our critical friend, Mrs. Stoddard, does not take time to find out what he is doing, but criticises on general principles, probably because she represents a society which purports to assist in the conservation of plant life. Perhaps such organizations would do well to tell us what they are actually doing toward the con-

servation of plant life rather than make radical criticisms of those who are actually doing something and who can show results.

Some misguided individuals, who have nothing more important behind them than good intentions, often, by their misdirected zeal, do more damage than good to the cause they try to represent.

Now, friends, if you want to criticise, for the love of all that is worth while, find out what your criticism is directed at and be specific, don't make a blanket criticism which does not fit at any point.

MADISON COOPER

Get Into the Sunlight

SUNLIGHT is so objectionable during the heat of the Summer that we are inclined to seek the shade and resent the hot weather which results from what we call excessive sunshine. Many people avoid sunshine wherever possible,—even in Winter sunshine is excluded by drawing curtains and otherwise.

Without sunlight we get nowhere and life on this planet would soon cease. It is, therefore, important that we should appreciate the true value of sunlight and its place in the scheme of things. At the Wisconsin Experiment Station careful trials demonstrated that poultry needed sunlight to make normal growth and do normal work. The same proved true with swine. What more need be said?

Sunlight properly applied would work wonders in applied human therapeutics. The action of sunlight on the processes of the human body are not even crudely understood. But we know that sunshine is beneficial and therefore we should get as much of it as possible, especially during the winter months. We cannot successfully store up during the Summer sunvitality which we need for Winter use. Get into the sunshine whenever possible during the months when the days are short. It is well known that the human frame comes through the Winter in a weakened and debilitated condition, generally speaking. It need not be so, and it is hoped that this little preachment will do its share as a prophylactic.

MADISON COOPER

Handling Gladiolus Cut Flowers

SOME years ago, at one of the flower shows, one of the best Gladiolus growers suggested that for exhibition, blooms might be cut and allowed to lay in the sun until thoroughly wilted before packing for shipment. As this practice was so far foreign to my own ideas at the time, I did not do anything more than make a mental note of the suggestion. By the way, mental notes, if filed so they can be found when wanted, sometimes serve a valuable purpose, and although in the present case the purpose may not be a valuable one, it is at least interesting and may prove useful somewhere.

The above is preliminary to relating a little experience which I had during July this year. I had a handful of cut flowers and was going to the basement with them when I was called to the telephone. I laid them on the grass, expecting to return within a few minutes and care for them. This occurred rather early in the morning, and I did not discover those flowers, which had lain there all the time in the sun, until the middle of the afternoon. They were wilted flat and flabby and the ends of the stems appeared thoroughly dry.

Thinking to experiment a bit, I took them to the basement and put them in water, as I had expected to do in the morning. I will not say whether these flowers opened *better* than those which were cut in the regular way, but the particular crock in which they were placed contained such a fine wealth of wide open blooms in the morning, that I am almost privileged to say that this practice resulted in an opening of more and larger flowers at one time than would have been the case had the spikes not lain in the sun for hours, as above explained.

Can any of my readers cooperate, from what I have said above from my own experience, and perhaps offer suggestions as to how this experience might prove useful in connection with the marketing of cut flowers? Or perhaps in the handling of cut flowers for use in making up floral pieces? Or perhaps for the handling of flowers in cold storage or in the refrigerator?

It is said that flowers cut in bud when just fairly showing color and put into cold storage at temperatures near the freezing point, may be kept for several weeks, and when taken out into the heat and put into water will not only be as good as those that are cut directly from the field, but actually better. This statement applies, I think, mostly to Peonies, but may also apply to the Gladiolus.

Please contribute your experience to the subject.

MADISON COOPER

What do YOU Think?

Not long since I sent out a circular letter to my library friends and one of the points was the following question:

"Do you know of any magazine giving as much useful, inspiring, entertaining, and *solid* information?"

Now honestly, friends, just "stack up" a year's issues of THE FLOWER GROWER along side of anything you know of in the magazine line, regardless of price, and see what you find. This matter is worth considering, and as Editor of this magazine I have a right to call attention to the large amount of facts and information which is presented in a year's issues.

Incidentally don't forget to tell your friends the result of your findings.

MADISON COOPER

The Desert Primrose

Thy beauty blooms upon the desert waste,
  At night, and lays a carpet o'er its dunes
  Of shimmering white beneath the whiter moons;
And through thy scented blossoms, interlaced,
The desert night-wind will a pathway trace
  To whisper to you of the past—the runes
  Of eons when these wastes shared Nature's boons,
And knew the rain's and dew's exquisite taste.

Thy beauty's incomparable, when night
  Upon the desert floods the world with light,
  Then Joshua trees, thy neighbors gaunt and gray,
Are not the grotesque things they seem in day—
  Then is the desert, filled with thy rich scent,
  White roofed, white carpeted, a perfumed tent.

JANET GARGAN

"Hardyizing" Tender Plants

I HAVE lately received several letters from readers of THE FLOWER GROWER, asking me to write and explain just how I would proceed in the attempt to "hardyize" (I owe that word to Mrs. Kate M. Bryan, of Dallas) plants that are now known as tender, or of doubtful hardiness.

I dislike to disappoint anyone who has flattered me so, but I fear that the little I am competent to say on the subject will prove more of a disappointment than otherwise. The average person has not the patience nor the zeal of science. He or she wants immediate results, and without too much trouble.

Speaking from a practical standpoint there is nothing we can do to any one plant that will make it more hardy than it was in the beginning. While it is true that careful exposure to unaccustomed temperatures will set up an internal resistance, the effect is not apparent to the casual observer and shows up only in the plant's progeny.

Of the two principal mediums with which Luther Burbank worked, hybridization and selection, he states in no uncertain terms that selection is by far the more important. What Nature accomplished in centuries he brought about in years, but the method was exactly the same—selection. There is good reason to believe that life originated in or near the tropics and that by selection Nature adapted certain forms to temperate, and even arctic, climates.

As an indication that an attempt to "hardyize" tender plants is not necessarily a hopeless undertaking, given time and patience, I will mention a few instances that, while not in themselves conclusive, at least may be considered as straws that show which way the wind blows:

I suppose all readers of THE FLOWER GROWER are familiar with the reports of Gladioli that have remained in the ground over Winter and that came up and grew and flowered the following Spring. It is not reasonable to suppose that all these reports were fabrications. There must be *some* truth in them. As for myself, I accept them at face value, disliking to condemn without evidence.

I once planted some Chrysanthemum seed from a mixture of Japs and florists' jumbos, all tender. I got some 25 or more plants, and having little use for pot plants I left them in the ground outside, over Winter. One lived through and flowered that Fall. For three years it remained in the same spot and endured the Winters and flowered each Fall.

A number of years ago I planted a lot of annual Scabiosa. That Fall, late, I noticed several green sprouts on the otherwise dead stems. I pulled them off and planted them in a well drained spot, without protection, and they lived through the Winter, and three subsequent Winters, and bloomed each Summer.

While living in the state of Illinois I came into possession of some dwarf Figs, that were supposed to be protected with barrels of dead leaves or wrapped with burlap, during the Winter. Being young and rattle-pated I neglected them after the novelty wore off. All died but one, and it was alive and growing when I left there.

About a year ago I sent a man living in the North some Cacti that are not supposed to withstand anything below zero. That Winter the temperature in his locality went to 20 below. All the plants except one died. That one is flourishing like a Gourd vine, according to his report to me.

I once left 23 Dahlias in the ground over Winter. One came up that Spring and flowered perfectly. Like the measly calf, though, it died that Summer. It may have been from the after effects of the cold, but I hardly think so. The flowers were too fine.

I could go on and fill several pages with accounts of unusual behavior of plants; mostly in the hands of amateurs who were not hampered by preconceived ideas on the subject; but if these do not serve, more would meet with a like fate. By thinking a little, most of us can recall instances of the sort; things that we paid little attention to at the time.

BUT I have been asked, in plain U. S., to tell, in plain U. S., just how I would proceed in the attempt to evolve a hardy strain of plants. As I see it there is but one way. It is well known that no two units of life are exactly the same. Among any lot of plants there will be one that is a little hardier, a little taller, a little more robust, a little more inclined toward this or that particular quality the operator has in mind, than the generality of its kind.

To find the plant with the greatest resistance to cold it would be necessary to give the batch just a little less protection than experience had taught one to be safe in that locality. If more than one survived one should select the healthiest, most desirable looking one and raise as many seedlings from it as possible. These should be given a fraction less protection than the parent, and the process repeated.

In the upper South I would plant about half my seed in the late Summer and let the seedlings stand where they were without protection. Possibly none would survive, but that is by no means certain, and the experiment is decidedly worth while. Young growth has a way of persisting where mature growth would succumb. The first time I remember noticing this was in the case of some sprouts that came from the stub of a Peach tree that had been cut down in late Summer. The leaves on those sprouts stayed green half the Winter.

Such old heads as see this will doubtless snort and call it all a mass of half-baked theory. Let them. All human facts were at one time nothing but theory. Without hare-brained theorizers we would still be traveling in ox carts and wearing homespun that some poor woman had pounded her daylights out in weaving. All things are possible to that person who will not take "no" for an answer. Which is just another way of saying that faith will move mountains.

W. A. BRIDWELL

Stubby of the Smithsonian

In every way possible for a dog, Stubby was a good soldier. He served conspicuously in France; and, now that he is dead, he is to be given a last resting place in Washington; not in Arlington, but in the Smithsonian Institution.

Before the war, he was taking a course at Yale. After the declaration of hostilities, he attached himself to the First Connecticut, which became a part of the Twenty-sixth division and which had its first training on Yale field. Overseas he went, with his fellow fighters, smuggled aboard ship by Corporal J. R. Conroy when military regulations threatened to end his soldiering. He was under fire night and day for a month; his vigilance saved a comrade from a gas attack; and he is credited with the capture of a German spy. He wore by right a wound chevron and he acquired more medals than he could well accommodate. for he was not of large stature.

After the war he went to Washington with his corporal pal; and now, his course is run; his battles are over; he has barked his last bark and gnawed his last bone. Who shall say that his service was not warrant for the distinction which is now to be his? He lived a full life, did his duty as a dog should, took his orders without question and finally went the way of all dogs. Stubby of the Smithsonian is worthy a place in our memories.—(Editorial in *Syracuse Post-Standard*)

Disarmament Means Death

The above heading is surely warlike and I want it to be so. All this talk about disarmament on the part of people who lack backbone and "guts," is mere babbling, as I see it. People who talk disarmament under present world conditions, are, for the most part, *unbalanced*, and they are also inadvertently trying to commit suicide.

Just imagine what disarmament would mean in the face of a barbaric and war-like world. What the Spaniards did to the Incas in old Peru ought to be sufficient example of what will happen to a disarmed and peace-loving people. A good motto at all times is: *"Be ye therefore wise as serpents and harmless as doves."* This does not mean that an unaggressive and peace-loving country with the highest of civilization should disarm itself so as to be at the mercy of a less-progressive, less-peace-loving, and less-developed civilization.

I have not tried to smooth out the language of what I have said above, as I feel very strongly on the subject, and it is not the first time that I have thus expressed myself.

My subconscious mind tells me that far back in past ages my ancestors were miserably slaughtered, and I feel the urge toward preparedness. From that ancient ancestry my direct forefathers evolved into peace-loving and self-reliant pioneer families. Not wishing to be miserably slaughtered as I feel my ancestors of old were slaughtered, I, for one, demand preparedness without aggression.

MADISON COOPER

Are We Savage?

Friends of THE FLOWER GROWER frequently send items which are useful for publication; and in other cases, while the items may not be serviceable in these columns, they are surely helpful and enlightening to the Editor.

Such an item is a dog story which comes from Brookfield, Mo. It relates to the devotion of "Shep" to a bag of toys which his owner had bought and which fell out of the wagon on the road home. "Shep," in his anxiety to tell his master of the loss, made himself so fierce and disagreeable that his owner shot him. Arriving home the owner missed the bag of toys and retracing his trail found the dead body of Shep stretched across the sack.

Assuming that the story is a true one, and we have no reason to doubt it, (although some of the details seem a bit irregular,) here is where the savage part comes in.

This Editor is no mollycoddle. He has experienced most all the vicissitudes and a large proportion of the hardships which are ordinarily given to the human race for their experience and development; but when it comes to telling all the revolting details of a man shooting his own dog, he must decline to tell the story, except in brief, as above, to illustrate the point.

While it is all well enough to teach humane treatment of animals, it is even more important to teach humanity as a broad subject, and surely to relate the story of a killing of a dog by his own master, not only teaches nothing of this sort, but incidentally tells of the *"inhumanity of man."*

MADISON COOPER

The Old Songs

AMONG the first things I can remember is hearing my mother, and various other women, singing this old song. According to the printed copy kindly loaned me by Mrs. Della Bellamy, of New York state, it was copyrighted in 1872. The fact that it was about 8 years old when I first became aware of it speaks for its popularity:

MOLLY DARLING

Won't you tell me, Molly, darling,
That you love none else but me?
For I love you, Mollie, darling;
You are all the world to me.

Oh, tell me, darling, that you love me.
Put your little hand in mine.
Take my heart, sweet Mollie, darling;
Say that you will give me thine.

Chorus:
Mollie, fairest, sweetest, dearest,
Look up, darling, tell me this:
Do you love me, Mollie, darling?
Let your answer be a kiss.

Stars are shining, Mollie, darling,
Through the mystic veil of night.
They seem laughing, Mollie, darling,
While fair Luna hides her light.

Oh, no one listens but the flowers,
While they hang their heads in shame;
They are modest, Mollie, darling,
When they hear me call your name.

Chorus:
I must leave you, Mollie, darling,
Though the parting gives me pain.
When the stars shine, Mollie, darling,
I will meet you here again.

Oh, good-night, Mollie, good-bye, loved one;
Happy may you ever be.
When you're dreaming, Mollie, darling,
Don't forget to dream of me.

Address all communications for this department to W. A. Bridwell, Forestburg, Texas.

One of These Days

One of these days when my work is through
And at last I have nothing at all to do,
I am going to travel the road that goes
To the home of my boyish joys and woes.
I'll pause and lean on the old front gate
Where I loitered until the hour grew late,
And I'll strive to picture the misty past
Where once I dreamed of a future vast.

One of these days I will idly swing
'Neath the spreading leaves where the Robins sing,
And I'll watch the Grapes, as the hours go by,
Drinking from earth and air and sky.
Imagination again will change
The place to a region fair and strange;
I will thrill at the monstrous shapes which pass
Through the jungle depths of the weeds and grass.

I'll see the elves in the leafy nooks,
The friends that I met in the wonder books,
And then, as I weary, I'll pause to hear
A song that is tender and sweet and clear,
Sounding throughout it and above
Is the exultation of mother love;
And perhaps with her voice I will lift my own—
And find I am singing alone—alone!

(Washington Star)

The True Living

WHEN you build a house with the aim of making a home, gather about you the things that will make it so attractive for you and your family, that you would rather be there than anywhere else on earth. Until this is done, you have a house, not a *home.*

Buy good literature, periodicals and daily papers that will appeal to every member of the family. Thirty dollars a year, or more if necessary, is not too much to spend for good reading matter. A good radio may be desirable for your entertainment. Make a garden or grow flowers if you like them. Spend the money necessary to make the home attractive,—then see how much fun it is to stay at home.

Many people think contentment, pleasure and peace of mind is something to be run down with an automobile and acquired. All the while, if they but knew it, the Angel of Contentment may be at home sitting upon their own door-step. A reasonable amount of driving about may be desirable or even necessary to cultivate friendship; but a great many, especially those of our cities, do an unreasonable amount of driving about seeking something of an exciting nature, to their detriment and neglect of the one best place on earth—HOME.

The men and women who go about their own business; paying their debts; living clean lives; and recognizing the right of their neighbor to live also; do more than they know toward making the wheels go round in this world. The unassuming person, in paying his debts, enables his creditors to meet their obligations, thereby establishing an endless chain of progress. One does not have to be spectacular to be an important cog in the wheels of the universe. In fact the honest, steady-working, unassuming person has more to his credit in a community where progress is made, than their spectacular neighbor who may not be paying his debts, thereby hindering the advancement of his fellowmen.

It is not the spectacular that counts in our living, but how well we assume our responsibilities.

LAMBERT COULTER

Catalogue Makers Please Note

The Glad Philosopher in the August issue has some useful suggestions for those who build expensive catalogues for an unappreciative flower-purchasing public. He does not suggest the remedy but the remedy can be applied by making a study of the particular case in point.

Generally speaking, a simple piece of printed matter or even a postal card will convey the needed preliminary message to the really interested person, at a fraction of the cost of the high-priced catalogue. Promiscuous distribution of a large number of high-priced catalogues is a great waste of money. They should be sent only to selected lists of comparatively recent purchasers; to those who are known to be actually interested; and to those who make inquiry from advertising in periodicals or through the sending of some cheaper form of advertising. Elaborate catalogues should be used to close the sale to the prospective customer, whose interest has been aroused in some other way.

Let the advertising experts who read THE FLOWER GROWER send in their criticisms or complaints.

Little Stories from Life

ONE of my neighbors is a woman about 70 years of age. She lives on the old home place where her husband died and where she reared six children. Within two miles of her live three sons and their families. She has a party telephone in the house and gets all the neighborhood news. Her children provide for her wants and visit her as often as their work will allow. Three neighbors are within reach of her voice. Song birds make music for her all day and wild flowers are everywhere around her. The view from either front or back of the house is magnificent, —hills and valleys, groves and glades, and in the purple distance the high, level prairie reaching into infinity. She ought to be happy but she is not; she is miserable.

The beauty of flowers and scenery is lost on her. She throws sticks at the song birds. She scolds her dog when it wags its tail at her. She cuts down and burns all the "weeds" her strength will allow her to. She has no flowers in the yard; can't "fool away time on the things." When anyone comes to see her she sets up a whine about the way people treat her:—Nobody would care if she were dead;—her children have forgotten what they owe her;—nobody asks her to go places with them;—when people pass they don't come to the house and ask her how she feels. Yow-yow-yow. Whine-whine. Groan-groan.

If she sees anyone coming she runs to the bed and falls across it, and sets up a charnel-house wail calculated to rend the heart, but in reality breeding disgust. She cannot see that she makes life so dismal and unpleasant for her callers that she defeats her own purpose. Even her children avoid her to the last possible moment and her grandchildren had rather be left alone with the bugger-man. If anyone tries to start a little cheerful talk she drowns it out with groans and complaints about various aches and pains and disgusting details of organic inefficiency.

Her wants are legion. She has bolts of cloth and toilet sets and throws and scarfs and rings and brooches and the Lord only knows how much stuff of a like nature; gifts from friends and relatives who have tried to show her in this manner that they care for her. She cares nothing for any of it. Her idea of Heaven would be to lie in the bed groaning, and every friend, relative and acquaintance around her with their eyes blared with terror; dosing, rubbing, praying, making poultices, carrying vessels and maintaining a death-bed atmosphere generally.

She wants the world at her feet and she does not one single thing to make the world want to be there. Poor old thing!

W. A. BRIDWELL

Note what the Glad Philosopher had to say in the August issue about the selection of officials to head floral organizations:—Pure wisdom,—nothing else. The active head of any floral organization, be it the secretary, the president, or the chairman of board of directors, makes or breaks any organization. Floral organizations, for the most part, when headed by amateurs who are also enthusiasts, succeed, and succeed remarkably. When headed by commercial growers usually the reverse is the case.

You don't think so? Well, think it over and watch the history of floral organizations which come under your observation and see what you find.

Exceptions, you say? Of course there are exceptions, but the exceptions always prove the rule.

Generosity May Not Be Justice

NOR may generosity be common sense or a display of good judgment, or anything but playing the "Lady Bountiful" act in many cases. In fact, if we are really hardheaded and pessimistic we may say that generosity in many cases leads us to become nothing more than "easy marks."

Well, so far what is said doesn't sound very much like brotherly love, altruism or anything more than the words of a croaker and a complainer. But, brothers and sisters, we might just as well face facts as they are and not imagine that everything is as it should be.

And I will tell you why I have snarled as I did above. A letter just came to me from a man in Maryland, reading, in part, as follows:

> "For 35 years I have endeavored to grow plants and flowers and have given thousands away to encourage others. I have found that many persons love the flowers when they can get them without any cost or trouble."

Here is evidence first hand, and absolutely conclusive, from a man who knows what he is talking about and yet who is not even inclined to be vituperative or resentful. He just states the facts as facts, and accepts them as such, and does not even admit that he has made a mistake.

I have written him that where he made his mistake was in not beginning to make a charge for things from his garden, even though he received but a small part of their actual market value. Had he done this years ago he would doubtless have accomplished just as much in encouraging others to grow flowers for themselves, in fact probably more; and he would have been treating himself *justly* and his visitors *generously* at the same time.

SOME months since the Editor made some remarks in these columns along similar lines, and he came in for some rather severe criticism from the "Lady Bountiful" class of people, who think they are doing a bit of missionary work whenever they give away flowers to every Tom, Dick and Harry. It is a fact that there *are* places and *many places*, where flowers should be given freely;—to the sick, to the aged, to the very young, and to friends you know well. But to give flowers promiscuously is just merely putting a premium on laziness, as well as on subterfuge and deceit; at the same time making a slave of yourself to no good purpose.

There friends; in the above there are texts for you to write me a nice bunch of lectures against pessimism or worse. I will accept your criticism with extreme humility.

MADISON COOPER

Size in Flowers

Size? Size is not an element of beauty in a flower, nor usually of any great value, except as it may bring a price.

Color, form, texture, substance,—every one of these items is of more importance than size in determining beauty.

Excessive size in most flowers involves a loss in one or more of these items.

For decorative effect at a distance size may have superior value.

B. C. AUTEN, (Mo.)

The Glad Philosopher's Musings

A DEVOUT Christian lady acquaintance expressed alarm sometime since when she read that the Mohammedans were erecting a temple somewhere in this country. I told her that was nothing to become alarmed about, that it was only fair, since we send Christian missionaries over to Mohammedan countries for the purpose of changing their religious beliefs. It's due every claimant for truth to get the square deal—a chance for the crucial test. Eventually, the religion that is nearest right will prevail, no matter what its name or practices.

The narrowness and bigotry that paralyzes one's ability to sift and accept the good in all religions is to be deplored. There is probably enough good in the religion of Confucius, that if strictly lived up to by the whole world, would bring about the millennium.

"Who ever knew truth put to the worse in a free and open encounter?" asked John Milton; and Archbishop Whitely, in his essay on the Love of Truth, says, "It is one thing to wish to have truth on our side, and another to wish sincerely to be on the side of truth."

John Locke, celebrated English philosopher and essayist, wrote, "To love truth for truth's sake is the principal part of human perfection in this world, and the seed-plot of all other virtues."

In his own homely way, Josh Billings, American witty philosopher of several decades back, whose wisdom was better than his spelling, hit the nail on the head when he said, "It ain't peepul's ignorance that duz the harm; it's thare knowing so darn mutch that ain't so."

I know a certain merchant who came short of attaining the great ideal he had in mind when he started out to make his career in the business world. The cause of his failure, I am satisfied, can be ascribed largely to the fact that he did not always want to know the truth about his business. He wanted to know the truth only when it suited his preconceived ideas. He would listen to his associates and advisers—when they agreed with him. He was as putty in the hands of flatterers.

Confidence is an important factor in every business venture, but a desire to know the truth introduces caution, always a necessary companion to optimism.

You've all heard of the fellow who cheated himself when he played solitaire. Well, that's the way some men play the game of life. Everything goes that contributes to an easy winning.

"Integrity in word and deed is the backbone of character," wrote Samuel Smiles, and as actions speak louder than words, a man's work must bear up and hold aloft the standard of his ideals or he misses the satisfaction that comes to them who win the highest honors and win them honestly.

There is an old Latin saying taken from one of the fables of Phraedrus, which translates something like this: "They who delight to be flattered pay for their folly by a late repentance," and a Spanish proverb reads, "He who makes more of you than he used to, either would cheat you or needs you." When someone approaches you with a lavishment of unctuous flattery, look out—you are about due for a "touch."

Yes, we know flattery is "the food of fools," and a tempting dish to be avoided, but honest, now lets "fess up, don't we humans all like to nibble a little at it occasionally? "I don't believe it, but say it again," is the title of a recent popular song.

THE GLAD PHILOSOPHER

The Weather and Its Influences

Conducted by JOHN S. HAZEN
U. S. Weather Bureau, Canton, N.Y.

Questions relating to Meteorology, and on Weather Subjects Generally, are invited, and same will be answered by Mr. Hazen in the Queries and Answers Department

Seeking Ideal Vacation Weather;—When and Where?

BY JOHN S. HAZEN

THE peak of vacation travel is reached during August over most of our country, and one finds all resorts well filled, and traffic jams along our main highways make touring anything but pleasant. I have often wondered why vacation days could not be extended over a longer season and so help reduce the number of people in the so-called summer resorts and at the same time give the vacationists a greater enjoyment of vacation days.

A beautiful setting where distance lends enchantment. Typical of our Adirondack lakes

It is true that the "Dog Days" of August often result in temperatures that are oppressive in many sections, but in starting out on a vacation we have no assurance that we will not run into the same general stagnant conditions of high temperatures and high humidities in the resorts that we attempt to escape in leaving our homes. Too many times in seeking to escape the heat at home, we make bad matters worse and get out of the frying pan into the fire when we leave home. In most cases it will be found that the discomforts in reaching the cooler seaside breezes of the beaches or the cool nights of mountain resorts, more than counterbalance the comforts after getting there, especially if there are large numbers present.

Now suppose we extend our vacations into September or even October if we are seeking ideal weather conditions. The benefits of a vacation come from a change in various factors. First we seek comfort in a change of temperature. If the weather is too hot we seek cooler regions and if too cold we look for higher temperature. Many of us derive benefit from a change in environment or in associates, so the resorts exercise a strong pull on us and we get away to fresh fields. But in many cases the pleasures and comforts of the annual vacation might be greatly increased if our vacation could be taken later in the season.

SEPTEMBER, in our Northern States is by many considered the ideal month for vacation tours and there can be little question of greater physical comfort for those who travel in automobiles during this month than will be found in August or July. Numerous mild and pleasant days during this month is the rule in the northern tier of states, and more and more people are coming to consider this month an ideal month for a vacation. More real comfort and enjoyment may be found in traveling in cooler weather than will be found during August if one prepares for the conditions which prevail during September. With lengthening nights and shortening days one naturally assumes that there will be cooler weather and such results are assured in the far North. Temperatures as high as 90 degrees are seldom recorded in this section after September 15. The average temperature has fallen to 54 degrees at the end of the month in many sections and a low reading of 25 degrees may occasionally occur in extreme northern

Peace and quiet of Indian Summer in the valley. Storm clouds gathering on the distant hills. Foothills of the Adirondack Mountains

sections, but now and then we will have a year that the frost line will not reach our country until October.

The Great Lakes in the East with their accumulation of stored heat modify and soften temperature conditions in the Northeast and thus prolong the advent of Fall. As the "Dog Days" are said to be the harbinger of Fall, September may be called the month of change. One can scarcely fail to note evidence of change each succeeding day. The advancing cold, the retreat of the sun southward, the shortening day, the appearance of the twilight, and the opalescent sunsets, all bear evidence to the gradual transition. Sunset colors become more translucent. There grows a gradual thickening of the air with low visibility for distant hills. Distant objects are lost in the increasing murk of smoke and dust. If the season is dry an increasing number of fires pour a large amount of carbon into the air.

September as a rule has less rainfall than August, though at long intervals she may become one of the wettest months of the year. During this month there is an occasional visit of a West Indian hurricane. Such a storm may double the normal rainfall for the month in a continuous rain of more than 48 hours, as it whirls its way down the St. Lawrence river. Such storms may occur at the time of the so-called equinoctial or at any other time during the month. Such storms may give the vacationist a disagreeable time for a few days but they are soon over and the heavy rain gives new life to all vegetation and the countryside becomes indeed a theme of beauty and a joy for everyone. If the rain is light, haze and dust will dominate the outlook, but to many the gray and drab effects are just as pleasing and interesting, as the hills and mountains are changed to misty outlines and phantom shapes by the increasing haze. As the nights grow colder one may often observe in the early morning a meandering stream of fog lying like a broad silver ribbon along the banks of some small creek. It is a thing of beauty in the early morning but let the motoring vacationist beware of suddenly and unexpectedly plunging into one of these fog banks as he motors across the country at night. They may readily become a deadly menace at unexpected times as one runs into them with no warning.

The early frosts of September hasten the time when the hills blaze forth in a riot of autumnal colors. The scarlet Sumach, the Maple with its red and green and yellow, and the scarlet of the Oak, make of the hills a sure sign of "Autumn nodding o'er the Yellow Plain." Near the end of September comes the equinoctial period at which time the Sun "crosses the line" and the days and nights are equal. This date also fixes the time for the Harvest Moon. If the Harvest Moon and Indian Summer happen to fall at the same time, as they do at times, then indeed do we find ideal weather for a late vacation. There is a quietness and peacefulness not to be found at other seasons of the year. Nature is ripening and getting ready to garner her harvest. The nuts of brown, the ruddy Apple, the marvelous colors of the flowers, even though they be more sober than summer flowers, all point to September as "Mother Nature's" own month. The brilliance of the leaves, the graying of the Golden Rod, the sheen of the Wild Aster, with now and then a glimpse of blue from the Closed Gentian, or the flash of red from a late Cardinal Flower beside some creek, but emphasize the inexorable change in the season. An occasional warm day speeds the ripening and cooler nights check further growth.

Nature is never in a hurry but as signs of Fall appear she speeds her work. The peace and quietness of the season steals over one as the twilight carries us into the night. There is a feel of laziness in the air during the day but the tang of frost in the early morning is a rare tonic for the opening day. The winds are light. The very air itself appears stagnant and expectant of the coming change. The beautiful blue haze of Autumn lends enchantment to distant valley and sloping hillside. The sun goes down behind a distant hill, a red gold ball of fire. It indeed becomes a period of waiting, when all Nature seems to linger while listening for the word to move on.

This season of expectancy is not known except in northerly sections of our country and is called "Indian Summer." It usually follows after the first real frost and may occur in September or even as late as the latter part of October. It has also been called the "After Summer." While "Indian Summer" is not unknown in Europe, it is much more commonly spoken of in this country and the term probably originated here. Literature on "Indian Summer" is considerable and the beauty and pleasure of the season has been made the theme of poet and author. It is impossible in mere words to convey to one who has not lived the outdoor life here during this season, more than a faint conception of the exhilaration and wonderful beauty of this season in northern latitudes. Many would no doubt be glad to change their time of vacation could they but realize and learn to know some of the beauties and charms of an "Indian Summer," falling at the time of the Harvest Moon, as an ideal vacation time. It is the most wonderful of all the year.

"For there's a magic in the air, a wine-like tang and zest,
And daylight lingers longer there upon the hill's crest,
Like some fair page of beauties' book spread wide for delight,
He sees the field, the wood, the brook, from that commanding height.
Some walk content on level ways, nor lift their happy eyes,
While others need the high hills, the haze, the peace that on them lies."

A deserted farmhouse is a haven at night for the fall camper when storms are brewing. Foothills of the Adirondacks

Browne's Weather Forecast

Brother Hazen, who writes the leading weather article for this department each month in an article in a daily paper points out that the "deficiency in temperature" for Northern New York since January 1st is now about 1000 degrees. Translated this means that the daily deficiency would be more than 4 degrees per day.

The forecast on the opposite page shows that Browne indicates only about 5 degrees below normal for 1927. He has before stated that the lowering of temperature would begin, or rather has already begun, in 1925 and 1926, and his forecast is perfectly good for Northern New York up to this writing. Conditions elsewhere have been at great variance and in many places the temperature has been above normal, but throughout the country some very unusual weather has been experienced, even though perhaps the conditions this year have been equaled during some former period.

Watch the weather for the next year or two and read all the literature on the subject available. It may pay you.

Great Climatic Changes Forecast

Temperature of the World is Gradually Cooling—Economic Consequences of World Changes in Climate

BY H. JANVRIN BROWNE, (In *The Magazine of Wall Street*)

DESPITE high scientific forecasts to the contrary, the Solar Constant, the measurement of solar radiation with atmospheric interferences excluded, remains at an ominously low point. For the period from 1905 to the beginning of 1922, with three years excluded, the Solar Constant averaged 1.95 calories. Since that date it has remained definitely below that level, not far from an average of 1.92 calories and during the past several months has shown a tendency to drop to the level of 1.90. A calory is, to quote the dictionary, "the usually accepted unit of heat, being the amount necessary to raise the temperature of 1 kilogram of water 1 degree centigrade in 1 minute."

To translate this change in solar radiation into average earth temperature is in a large sense a problem in proportion. Since all heat at the earth's surface is derived from the sun, the proportion must be reckoned from absolute zero which is placed at 461° Fahrenheit plus 62.6°, the average temperature of the earth above zero Fahrenheit, a total of 553.6 degrees. The drop works out approximately 2.21 degrees over the whole earth, but the change tends to be more marked in certain areas and in the continental temperate zones the change may amount to an average of above 3°. Great Britain and Scandinavia would have a 5° drop. The indications are strongly in favor of a further decline in the Solar Constant after the period of maximum sunspots has passed in 1927-28. In this event the theory which I am advancing of definite climatic changes throughout the whole world will be irresistibly sustained. And these changes will be those of the order of a mildly colder climate, such as was in evidence in the Fourteenth Century, as well as in certain other notably cold centuries during the past 2,000 years, with a shifting of storm tracks and precipitation.

I shall confine this article to a brief presentation of the effect of these pending changes in North America and particularly in the United States. The accompanying map outlines the shifts in the isotherms, lines of equal temperature,—which can be forecasted for the United States and which are even now to a degree in operation. To critics who say that the changes indicated are discoverable to have taken place temporarily in past years, the answer should be made that there is no record in existence in the United States or in the World of recent antecedent conditions such as have been coming into operation during the past four years, and which have now assumed a definite trend toward a lower level of temperatures and change of precipitation. One has to contend against the static mental condition of the orthodox mind, official, collegiate and commercial, to secure a fair hearing for this vitally important proposition.

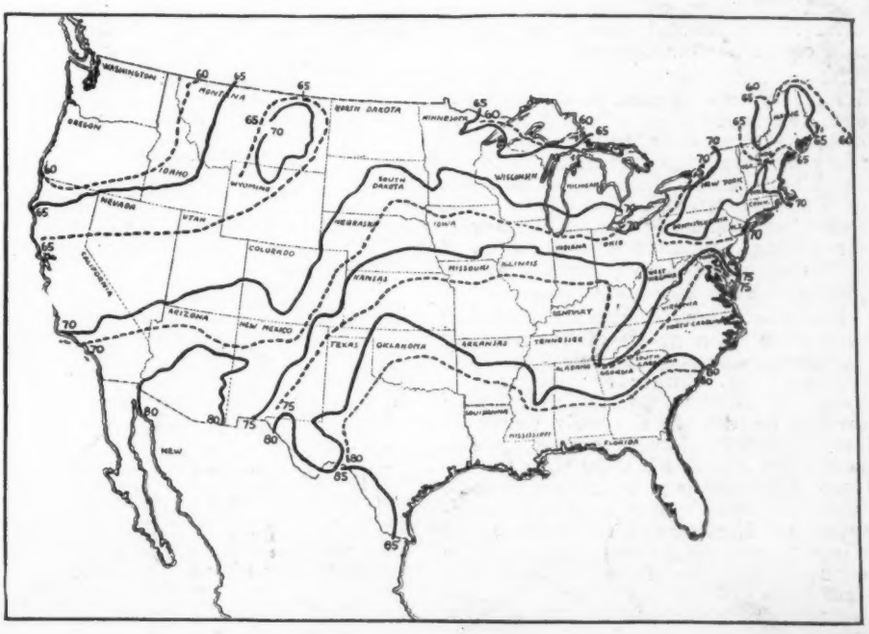
In listing the results of a long continuation in the present decline in Solar radiation, oceanic effects come first, and while slow to respond, end in far reaching changes. It will probably be 1930 before the oceans will have fully adjusted their surface temperatures to the drop in solar radiation, although definite trends are already in evidence. Nine-tenths of precipitation, whether in the form of snow or rain, is derived from evaporation at the surface of the ocean, wind borne upon the continents. While the quantity of that moisture is influenced by the force and volume of the wind, its major control is governed by the two elements of ocean surface temperature and of heat from the sun. There are many minor phases of influence not necessary to dwell upon, but if solar radiation is reduced and ocean surface temperatures are lowered, there will inevitably be reduced precipitation on the continents. Its distribution will of course be governed in its inequalities by many other conditions, but the present drop in solar radiation points to not less than a 5% reduction in precipitation on the lands. This alone may not have a serious effect, as a cooler land means reduced evaporation. There would be, however, changes in seasonal precipitation in the direction of rain at the wrong time and dry weather at the wrong time, to have an unfavorable influence on crop results, not entirely met by deferred changes in the planting season and at critical stages of growth, such as pollination, and during the harvest.

By specific areas, generally cooler weather will benefit the extreme Southwest, Southern California, Arizona, New Mexico and West Texas. Here the transition is already in evidence. The first seven days of April, this year, witnessed the heaviest rainfall in Southern California ever recorded for the whole month of April hitherto. Arizona had the greatest seasonal rainfall ever recorded, accompanied with very low temperatures. The Arizona desert, for the first time since white occupation, is covered with dense and luxuriant vegetation, and a carpet of flowers extending for hundreds of miles. Salt River Valley witnessed, following the March equinoctial date, two storms, the first the heaviest in thirty-one years, and the second, four days later, the heaviest ever recorded. All through that country reports come in of the greatest precipitation ever known. And this condition extends deep into Mexico. Professor Ellsworth Huntington of Yale has brought together material showing that during the Fifteenth Century floods were numerous in the now arid Valley of Mexico, that period being one of the coldest in European history. Dr. A. E. Douglass, of the University of Arizona, has proven this rainfall period by the superior growth of the tree rings of the Douglas Fir and Giant Sequoia in Arizona and California.

Since the belt of cold winds would come further South to meet the humid air from the Caribbean, the Gulf of Mexico, and sub-Tropical North Atlantic, heavy rains may be assumed in the Gulf States, and for parallel reasons along both the East and West seaboards. Spring precipitation will not be lacking but the tendency toward fall droughts would be emphasized in several sections.

The Polar ice cap would undoubtedly extend Southward, and Spitzbergen would become inaccessible to navigation. Permanent ice would extend well into Labrador from the North, and the spring movement of icebergs and ice fields into the steamer lanes of the Atlantic would be more pronounced. This would mean adverse crop season in New England, and the Canadian maritime provinces.

An important approach to the subject may be found in "Physics of the Air," by W. J. Humphreys, Professor of Meteorolgy, United States Weather Bureau, one of the great world authorities on problems of the air. Without desiring to commit him to the application of his statements to the present decline in solar radiation, Dr. Humphreys writes (pp. 75-76) that a 5% increase in solar radiation, long-continued, would mean a 4% increase in terrestrial radiation, equivalent to an effective rise in temperature of 4.68 de-



grees Fahrenheit, "an amount that, if continued for a number of years, would be very important." A corresponding decrease would have a similar drop in earth temperatures. Dr. Humphreys holds that a reduction of from 1.8° to 3.5° in average temperatures would be "enough if long continued to begin a moderate ice age." Still more to the point is this statement (p. 584):

"During the Summer or growing season a change of 0.9° Fahrenheit produces a latitude shift of the isotherm by fully 80 miles."

To make it plain, Dr. Humphreys holds that a 1.8° drop would shift the northern limit of the corn belt south 160 miles, and on broad lines a similar shift southward would take place in the Canadian spring wheat belt, in the areas in which definite fruits can be grown, and would similarly affect the northern 160 miles in which cotton can be produced. One can further figure the change into terms of days. The wheat harvest, to illustrate, moves north at the rate of 15 miles a day. So do spring fruit blossoms. There will be, therefore, an equivalent to a ten-day later Spring and spring planting, a later harvest, and a disturbingly earlier Fall over the greater part of the North American continent. One can further figure navigation on the Great Lakes similarly shortened at both ends of the season.

On those crops which require practically the present full growing season for maturity tremendously important limitations will be imposed. The so-called late varieties of potatoes would have to give way to the earlier maturing though less prolific types. These have already been so thoroughly developed that no great difficulty would be experienced. Corn would undoubtedly present serious problems. Only among corn raisers is it realized that seed corn cannot readily be shifted from one locality to another, widely apart, with success. It is a highly localized grain. The development of new strains of early maturing corn in sufficient quantities to meet such an emergency as is herein set forth will be a slow and difficult task. It is possible, however, that a shifting of the center of the corn belt south 160 miles might lead to a climatic realignment favorable to beneficial and successful translation of the seed corn a similar distance.

There would be trouble in the fruits. Winter types of apples in the northern orchards would have a hard time of it, and one may question the ability of many vineyards to survive more rigorous Winters and a shortened season. For with the shortening of the season would come also a tendency toward later dates for killing frosts in the Spring and earlier ones for their recurrence in the Fall.

Remarkable and convincing work has been done by a group of the younger European scientists, following the leadership of Dr. Rutger Sernander, Professor of Botany in the University of Upsala, Sweden, in definitely determining the great climatic changes which have taken place in Europe since the retreat of the ice cap, which began some thirty thousand years ago and terminated in Northern Europe in about fifteen thousand. Foremost among these are Helmut Gams of Switzerland, Rolf Nordhagen of Norway, and Gunnar Erdtman of Stockholm. They have proven by evidences of plant migration that four marked climatic shifts have taken place, named the Boreal, Atlantic, sub-Boreal and sub-Atlantic, the latter being of the present type. Illustrative of the Boreal period conclusive evidence is presented, that Scandinavia had the warm, rather aridly dry climate of Spain, and coincidentally the Caspian Basin had a cool wet climate, during which the Caspian rose some 90 feet above its present level.

In a recent article in *Die Erde*, a leading German scientific magazine, Dr. Gams, reviewing my theory of climatic causations, directed attention to the fact that the year 1925 witnessed great drought through Southern Scandinavia and North Germany, while the steppes and semi-deserts of the Caspian Basin had heavy rains and were covered with dense vegetation. This he notes is for a single year an exact parallel of the conditions of the Boreal climate, and from what I had laid down as a definite causation in the shifting of temperatures in massed ocean areas. In concluding his article, Dr. Gams states that, if my forecast for 1927 is sustained, this new departure in long range weather forecasting must be accepted or a better one offered.

Since the evidence that climatic changes do take place, as Dr. Sernander has stated, "with knife-edge sharpness" and not by the slow, almost imperceptible gradations of scholastic theory, would it not be well to undertake an open-minded examination of the overwhelming evidence of pending climatic changes which I have accumulated during the past five years?

Weather and Static

The Monthly Weather Review, official publication of the United States Weather Bureau, attaches a certain amount of credence to the relation between static and weather conditions, in publishing the following report:

"Studies made during the Summer of 1921 at the Geophysical Institute of Strasbourg on radiogoniometry (radio direction finding), have led to the interesting meteorological relations between the direction of maximum intensity of 'strays' or static and the movement and shape of depressions.

"(1). In the case of a well-defined circular depression, the maximum intensity of 'strays' is observed in the direction of the southern or southeastern part of the depression; the change of this direction of maximum intensity serves to follow the movement of the depression.

"(2). In the case of an elliptical depression, less well marked, the maximum intensity, as in the first case, is observed to come from the southern or southeastern parts. This case is less satisfactory than the first.

"(3). In the case of secondary depressions, or the barometric fluctuations along squall fronts, the maximum is difficult to determine.

"(4). A squall close at hand gives violent 'strays.'"

"These observations have permitted following the movements of known depressions, and also forecasting the arrival of those as yet unseen on the weather map. A striking relation is also found between observations of maxima in 1920 and the corresponding barometric distribution. This seems to point the way to a new viewpoint in the forecasting of weather."

HUMIDITY INCREASES STATIC

"It would appear," reports Mr. Simson in noting the relation of static to the amount of moisture in the atmosphere, "that diurnally the static is directly proportional to the relative humidity. However, in any attempt to judge the direct relation between static and relative humidity, the so-called 'night-effect' influence on signal and noise strength must be taken into consideration. That this effect is not inconsiderable is evident from one chart or graph plotted. From this chart, it is apparent that a signal of given strength transmitted at 4 a. m. will set up approximately ten times as much current in the receiving antenna as the same signal transmitted at 4 p. m.

"A better perception of the diurnal relation between static intensity and relative humidity may be obtained by plotting a static intensity observation taken at a fixed hour of the morning (late enough so that the value of observation is not distorted by the 'night-effect,' and early enough to avoid distortion from distant thunderstorms or excessive convection), against the minimum relative humidity for the day. Evidently we are correct in assuming that for the normal summer day the static intensity is proportional to the relative humidity, which is not in apparent accord with the annual relation." This apparent anomaly is then explained in the light of the theory of the physics of the air.

"The study of static as an indicator of fire weather," declares Mr. Simson by way of summary, "is too much in its infancy to draw any definite conclusions, other than that a relation appears to exist between static and relative humidity. Also, the area of territory which may be covered by a single forecast station is not known. It is believed that further investigation is warranted and sufficient instruments should be obtained to record graphically static intensity and atmospheric current density in order to correlate them properly with other meteorological factors."

It is a far cry from the primitive method of Egyptian weather forecasting of 2,000 years ago, in the Nile Valley, (the Egyptian was the forefather of today's weather man,) to 1927, when the amount of moisture in the atmosphere may be forecast to fire fighters, aviators, agriculturists, nurserymen, and irrigation companies, twenty-four hours in advance. This may be a remote, but not impossible, achievement; since it is one of the major projects of the United States Forest Service at its experiment stations and the investigation is expected to be completed in 1927. If this objective is attained, the consuming interest in radio will have been responsible for initiating the project. Such are the peculiar twists in natural phenomena—static being described as Nature's most powerful broadcasting station.

If static is developed into a basis for weather forecasting, with special reference to relative humidity, the 25,000,000 radio fans in the United States may eventually expect that the Weather Bureau will issue radio weather forecasts. Supplementary to the general forecast, "Fair and Colder Tomorrow night," will be the special forecast, "Good Radio Weather—Cold, Crisp and Clear—'DX Hounds' Should Have Their Batteries in Good Condition and Tune in on the Pacific." —(*Radio News*)

Transplanting Trees in Frozen Ground

A subscriber who saw the Editor's note on transplanting Evergreen trees in frozen ground wants to know if this idea will apply to Fruit trees, particularly Pear, Apple and Quince trees.

There seems no reason why this cannot be done, but in the case of the trees above mentioned, it is probable that as good results at least will be had by transplanting in early Spring after the frost is out of the ground, cutting back the branches or tops of the trees rather severely. Transplanting in frozen ground is particularly desirable with Evergreen or coniferous trees, or perhaps trees of large size.

Can any reader throw additional light on this subject?

The Dahlia

Dahlia Tuber Production

BY C. H. CONNORS

(In *New Jersey Dahlia News*)

FREQUENT complaints are heard of the failure of Dahlias to produce tubers. Some varieties are notorious in this respect. A little experimental work was attempted during the past season, to discover the causes and to remedy the condition, if possible.

THE EFFECT OF FERTILIZERS

A variety which usually produces poor tubers was selected for this test, *Lady Helen*. This is interesting from another standpoint, for *Lady Helen* was one of the varieties which failed to grow in 1924, becoming stunted. A few of the plants started to grow about September 15, and these were selected for propagating stock, to see if the stunted condition held over. It did not, for as fine a batch of plants was obtained as one could wish.

These were planted in plots of 5 plants each, all fertilized alike as to nitrogen and phosphoric acid, but varying in the amounts of potash used. Two plots received no potash; two, 150 pounds to the acre; two, 300 pounds to the acre.

The plants grew very uniformly during the Summer. At digging time, the clumps from the varying potash treatments were compared, and no difference could be noted in weight or size of tubers produced.

THE EFFECT OF TRAINING

That the system of training may have some influence upon tuber production has been known for some time, but this was checked.

Twelve plants of one variety were pinched twice, and when the flower buds were set were disbudded and disbranched down to the bottom pair of leaves on each of the 6 to 8 stems. When dug, the roots were small and stringy. Other plants of the same variety were allowed to develop all flower buds, or disbudded and disbranched moderately, and in either case, good clumps of roots were produced.

THE EFFECT OF MOISTURE

A number of varieties were planted together in the same portion of the field, which sloped and had a slight dip at the rear. The front portion was soil of a slightly sandy nature which dried out, while that in the rear was somewhat heavier and retained the moisture.

All varieties produced better tubers in the moisture soil.

TUBER OR PLANT

The perennial question as to the relative value of tuber or green plant in the production of tubers was tested.

Three varieties were selected: *Mrs. I. de Ver Warner* and *Jersey's Beauty*, which are noted as tuber producers, and *Jersey's Radiant*, which is somewhat fickle. Of each variety there were planted tubers, plants and the tubers from which the plants had been propagated. The tubers were set 10 days before the plants and the propagation tubers.

Upon digging, it was found that there was practically no difference in the quantity of tubers produced by the tubers and by the plants. In the case of the propagation tubers, not so much root was produced. It seemed to take these a little longer to become established and they did not grow quite so well, due to the fact that they were planted later and had to make a recovery during the period of drought, which was a severe handicap.

EFFECT OF INSECTS AND DISEASES

While there may be such a disease as "stunt," most of the trouble in the garden under discussion was due to early attacks of thrips. The thrips are tiny insects which enter the growing tip and chafe the surface of the embryonic leaves and then suck nourishment from them. Certain varieties seem to be more susceptible to the attacks, and chemical and botanical studies will be made to determine why this is.

Control measures were omitted in some cases, and an opportunity was at hand for the effect of this injury upon root production.

Healthy plants produced good clumps of tubers. The injured plants produced only strings or small tubers, because of the stunted condition. Plants which are naturally dwarfed produced good tubers, but plants which had an unhealthy induced dwarfness did not.

DISCUSSION AND CONCLUSIONS

For the production of tuberous roots on the Dahlia, it is essential: (1) that the plant be of such nature that it will produce tubers; (2) that the plant be in a soil which will furnish a balanced plant food and ample water for the production of healthy, vigorous growth; (3) that the plant be kept free of insects and diseases.

Any plant needs a balanced fertilizer to grow properly. The three elements usually lacking in soils are nitrogen, phosphoric acid and potash. While the exact role of each of these elements is not understood, it has been determined that in some way potash is associated with the production of starches and sugars. In the soil in which these tests were conducted, there was probably enough potash for normal growth. It may be a limiting factor in tuber production in very sandy soils, from which soluble plant foods, such as nitrogen and potash, leach readily.

An ample supply of water is necessary. Succulent plants consist of 80 to 90 per cent water. All the mineral elements of plant food are absorbed through the roots in solution. Hence, to secure a vigorous growth, plenty of water is necessary. The soil must not be in a saturated condition, however, as this would reduce the amount of air in the soil, from which the roots secure the oxygen necessary for the manufacture of food products.

Vigorous growth is necessary for the production of leaf-surface, for it is in the leaves that the starches and sugars, later to be utilized in growth or stored in the roots, are manufactured. Hence anything which restricts leaf growth will restrict tuber formation. Disbranching too severely will do this. When the leaves are crippled by insect attacks, there is a reduction in leaf-surface.

If the growth is rank, i. e., too vigorous there is a reduction in tuber formation. Rank growth is induced, usually, by an excess of readily available nitrogen. Of course, more leaf-surface is produced in this condition, but the starches and sugars are utilized at once in new growth processes and cannot be stored.

The Dahlia is a delicate growing organism, as are all flowering plants. A good, well-balanced growth will produce good flowers and good tubers for the following year, other things being equal. It is practically impossible to grow the plants for exhibition blooms and still produce good tubers. This proper balance can best be secured by close intimate study of each variety as it grows under each condition of environment.

"Burning" of Evergreens

NOTHING is more unsightly about the home than Evergreen plants and hedges which show signs of what is commonly known as "burning." This shows up in the Spring and is usually much worse after a dry Winter. When the ground freezes in the Fall with but very little water in it, we may expect a good deal of this burning to show up the next year. Often plants of Arbor-vitae and Juniper are killed outright. Those Evergreens which naturally grow in dryer localities, such as some species of Juniper, Red Cedar and the Pines of the hillsides, will withstand a greater degree of dryness than will the Hemlocks, Spruces and Arbor-vitaes. Many of the Evergreens grow in the wild state in cool northern woods and swamps, where the roots never suffer from lack of moisture.

One reason why Evergreens can be set in the Fall is the fact that the Fall rains usually soak the ground to such an extent that there is no lack of moisture during the Winter. However, we occasionally have a Winter that spoils all our plans. The ground may freeze before much rain has fallen in our northern localities; then the roots suffer for lack of water. Not only is this true of plants newly set, but of older plantings as well.

We have found it possible to save our Evergreens by giving the plants a thorough watering late in the Fall. A trench is made about each specimen tree and along each side of the hedge, then water is turned in until the ground seems to be soaked down to the roots of the Evergreen. This kind of treatment is seldom necessary after the Evergreen has been set for four or five years and has become well established. It is necessary only in dry seasons, anyway. The native Hemlock is one of the best hardy Evergreens, but it is, perhaps, the worst of all to succumb to burning.

C. H. CHESLEY, (N. H.)

Meadow Salsify for the Winter Bouquet

BY MARJORIE SHANAFELT, (Neb.)

QUITE often during the months from June to October someone brings to the Museum a gigantic ball of fluff which they regard as an exaggerated Dandelion seed ball. Indeed the similarity is considerable, but the seed ball is more beautiful than the Dandelion clock, beloved of our childhood, while the individual seeds are equally well-equipped for drifting with the wind to new localities.

A group of the treated seed Balls

The name of this plant is, for the botanist, Tragopogon pratensis, but for most of us it is Meadow Salsify or Yellow Goat's Beard; a close relative of that Salsify which we eat in soups and call Oyster Plant or Purple Goat's Beard.

The odd flowers of the Meadow Salsify growing in a jumble of other weeds and grasses. In the lower, right-hand corner one of the unopened pods is visible.

In patches of uncultivated ground these plants take up their abode and send up their gray-green flower stalks from June to October. The flowers open about half-past eight in the morning, providing the sun is shining, and close by noon. These are followed by seed balls much larger than one would expect from the size of the flowers which are not more than an inch and a quarter in diameter. The flowers are popular with the bees whose legs soon look as though they were wearing yellow cowboy chaps, so heavily do they load themselves with the pollen.

Naturally, with so many seeds to float away like miniature parachutes, this plant is well on the road to being an even worse nuisance than the Dandelion.

There is a way to give unto our winter living rooms a touch of beauty, and to reduce the number of distributed seeds, for these balls make the most charming of winter bouquets, either alone or in combination with other everlasting flowers. To do this, it is easiest to cut the graceful stalks before the composite seed ball has opened. Stand the stalks in a vase for a day or two, where the sun may smile on them. As soon as they have opened drop into their centers half a dozen drops of shellac, rather diluted for convenience in dropping. When dry this will keep the pappi stalks firmly in place and one need not be afraid to stand them in appropriate places.

Dropping shellac into the centers of the Balls to make them suitable for artistic purposes

Until you have seen some of these balls, you will have no idea of how beautiful they are, for instead of the white of the Dandelion ball, they are a golden yellow as to pappi stems, and the radiating ribs of the parachute shade from cream at the centers to white at the edges. Some of the slender leaves will cling to the stalks and add to the beauty of the stalk.

Meadow Salsify is close at hand, in an empty lot around the corner, down any country roadway, or perhaps fringing the edges of your very alley.

Make a Lawn to be Proud Of

MANY a home would present to the world a better appearance if it could have a better Lawn. Gardeners who are otherwise expert in their profession fail to make good when it comes to making a Lawn that will keep its green appearance during the dry summer weather. If we stop to consider, we will find that the reason is very obvious in most cases of failure. The Lawn is made in the Spring; that is, the seed is sown at that time, and the hot and dry summer weather spoils it before the grass roots have become firmly established.

I would buy a good prepared mixture of lawn grass seed. All seedsmen sell something of the sort. I would hold the seed until September, however. The first part of that month is about the right time to plant the Lawn in most of the country, although it may be well to wait a month longer in the arid sections. If the place is covered with an old weedy sod, plow deeply sometime in the Spring or early Summer and cut the sod into a state of fine tilth with a disk harrow. If roots of Dandelion, Sorrel Dock and Couch Grass appear after the harrowing, remove them. Harrow the soil every two weeks during the Summer, first fertilizing with stable manure if possible. When the time arrives to put on the seed, roll the plot until it is hard, then harrow again. A harrow that will not cultivate more than two or three inches deep is best for this purpose. Now put on the seed and roll it in thoroughly.

The next Spring apply bone meal at the rate of about 35 or 40 pounds per square rod. This would be the maximum amount. Less will do a proportionate amount of good. Early in the following Summer apply nitrate of soda at the rate of not more than a pound per square rod. Your Lawn is now prepared and all you will have to do is to water it occasionally during dry weather and apply fertilizer. It is a good plan to put on a top dressing of fine stable manure every Fall and rake it off in the Spring; then, sometime each Summer, when the ground is full of water, sprinkle the dressing of nitrate of soda, one pound or less to the rod.

A Lawn can be made with almost any kind of soil, but the heavy clay ought first to have a certain amount of sand or fine gravel mixed with it. This will assure drainage for the grass roots and prevent winter-killing. Weeds will creep into any Lawn unless precautions are taken to keep them out. The seeds of the Dandelion blow from a distance, but young plants may be removed without much difficulty. It is the older ones, with large root systems, which are hard to eradicate.

C. H. CHESLEY, (N. H.)

The Rose

Looking After Roses

BY J. HORACE McFARLAND, Editor *American Rose Annual*

BECAUSE Roses are perennial woody plants, the impression prevails, at least among some more or less careless or thoughtless persons who insist on the possession of a love for flowers, that once planted nothing else need be done. It is this class of people who continually come at successful Rose growers with the statement, "I have no luck with Roses." Questioning usually brings out the reason to be mostly that of neglect, carelessness, and the absence of a real love for Roses or any other flowers. We are all familiar with the fair lady who ingeniously says, "Oh, I just *love* flowers," as she pins on her corsage a cluster of blooms ravished from some plant, which she is going to throw away inside a half-hour.

Roses differ from weeds in that they are less able to maintain themselves against adverse conditions than "the plants out of place" which become weeds by reason of their vigor and persistence. To do their best, Roses need care, a lot of care, and loving care at that.

Much has been said in these pages concerning the methods of planting and handling. Presuming that the right Roses have been purchased; that they have been planted in time, and carefully planted; that they have been protected against bugs and bothers by the necessary spraying and the like, what else is there to do? Quite a few things if real Rose prosperity is to be maintained, and especially if real Rose enjoyment is to be obtained.

There are two general ideals in growing Roses. One may plant in order to have a supply of flowers to cut. This is a fine ideal. As each bloom gets into the bud stage it is likely to be cut, preferably with a long enough stem to keep the plant shapely, and the flower used in decoration or as a gift to some less fortunate person. I would not say one word in objection to this method, or in criticism of those who carry Roses, which are "God's love letters," according to one able man, to others who need such evidences.

THEN there are Rose beds, Rose gardens, Rose corners, maintained so that they may delight the eye of those who visit and see. In these the Roses are not continually cut, but are allowed to reach maturity and to remain in beauty as long as they are objects of enjoyment. This sort of a garden may easily give at least as great joy, and to more people, than the one in which the Roses are grown that they may be cut. I confess that at my Breeze Hill garden I do not cut blooms for many of the visitors, because I am always thinking of other visitors who follow and who are expecting to enjoy the "Queen of Flowers" in her daily display of delightful form, fragrance and color attributes.

Now this show garden, or decorative garden, or friendly garden, as it may be called, needs a lot of attention. When the great burst of bloom comes in June, there are magic and marvelous days in which, particularly if the nights are cool, each Rose plant is approaching its greatest expression of beauty. It needs then very little attention. Shortly, however, the flowers which were first to open have matured, and if the garden is to be kept sightly they need to be cleanly clipped. This may become quite a task, particularly if one is dealing with such an annoying case as that presented by the otherwise lovely *Climbing American Beauty*, the flowers of which, after they have been open for two or three days, turn a sickly bluish hue and hang their petals as if they had been deluged with boiling water. If these flowers are patiently and carefully cut out, immediately the whole bush seems to jump into renewed beauty.

So the clippers of the garden guardian will be kept busy, even when the bloom is at its best. These clippers, by the way, ought to be in the shape of a convenient pair of first rate pruning shears. These can be obtained in six-inch length fit for any lady to handle, and if they are kept clean and sharp they will permit reaching into the center of a bud cluster so that a mature flower can easily be removed without damaging the buds that are yet to open. (It is regrettable to say that when American manufacturers make such shears no one of them has yet been able, either in pattern or quality, to equal the German-made shears.)

THE Hybrid Tea Roses will need continual attention of this sort. In my own garden enjoyment I like to do the work before breakfast every morning, going about with a basket and looking over every plant in the section devoted to the Teas, Hybrid Teas, Polyanthas, and others which bloom right along. I cut out the blooms that are just about to fall, and in so doing, when it is a terminal bloom, I cut back the plant to keep it in good shape and to induce the breaking of new shoots for more blooms. This, by the way, I do not do on the Polyanthas in the same fashion, for on these very frequently the new shoot will arise from within the bud cluster, wherefore it is merely a question of neatness and getting rid of the finished flowers, rather than of cutting back, with this attractive group of Roses.

Doing this agreeable work this way, I have a new Rose thrill every day, and I become intimately acquainted with my Roses. All of them, of course, are lovely, and if I am in doubt as to any particular Rose personality, the label quickly informs me.

But I do more than go after the spent blooms. I am keenly on the lookout for insects and diseases, or anything else that may interfere with the Rose's best work for man. Does a leaf show the beginning of blackspot? Off it comes, to be quickly burned. Has a leaf fallen to the ground? That also is picked up, because I have now become convinced that fallen leaves invite the dreaded black-spot, and I am issuing no invitations of that sort!

In this morning survey one may cut the blooms he wants to give away or to use for decoration within the home, thinking it out as to how he will leave the general garden appearance with its bright and cheery showing of color so that others may enjoy it. So treated the Rose garden keeps clean all the time, and writing these words at the tail-end of July, I can say that the sort of attention involved in the above handling of Roses has given me delightful Rose results.

To anyone who thinks that what I have outlined is too much trouble, Roses do not belong. I am a busy man, but I find the half-hour or more before breakfast of the summer mornings the finest possible preparation for the better doing of the things that keep me busy.

Rosa Rugosa

THIS is a native of the coast sand dunes of northeastern Asia from northern Japan to Kamtchatka, and is an old inhabitant of gardens. The thick dark green leaves seem able to resist the attacks of insects and the diseases which often discolor the leaves of many Roses. The flowers of the typical wild plant from Japan are red, but there are varieties with pure white and with clear pink flowers. The Kamtchatka plant, which is less ornamental than the Japanese plant, with smaller and thinner leaflets and smaller flowers is treated by many botanists as a species distinct from the Japanese plant and called by them *Rosa kamtschatica*. There is a double-flowered form of this continental plant in the Arboretum collection which produces flowers which are as ugly as it is possible that a Rose flower can become. No other Rose is hardier than *Rosa rugosa*, and left to itself it spreads into great thickets. No shrub is better suited to grow in exposed positions on the New England coast; it grows equally well in the rich soil of the garden, and no other Rose is so valuable in this climate for making low hedges. Valuable as the Japanese *Rosa rugosa* has proved itself as a garden plant its greatest value is in its ability to transmit its hardiness,

handsome foliage and large flowers to its hybrid offspring. Among these are already several beautiful garden plants which suggest that the plant breeder who wishes to produce new races of Roses able to grow and flower successfully in the northern states must combine *Rosa rugosa* and its hybrids with other hardy Roses. Rose breeders are singularly reticent about the plants they have used in their work, and there appear to be no printed records of the parentage of any of the Rugosa hybrids with the exception of the two which have been created in this Arboretum. One of the earliest of the Rugosa hybrids, *Madame Georges Bruant*, has pure white semidouble flowers which continue to open until the coming of frost. More distinct is the plant named *Conrad Ferdinand Meyer* which was raised in Germany. This is a large shrub, with large, nearly double, clustered pink flowers. The foliage and flowers show little Rugosa influence, but its vigor and hardiness are probably derived from the Japanese parent. *Blanc de Coubert* is a handsome, double-flowered form. At least twenty other European hybrids of *Rosa rugosa* have received names. *Roserie de la Hay* is one of the handsomest of the hybrid dark red Roses. Another of the handsomest and most distinct of these hybrids was raised several years ago by Paul & Sons of Cheshunt, England, by whom it was named *Rosa rugosa repens alba*. This plant has the foliage of *Rosa rugosa*, large flowers with petals between which there is more space than in the typical flowers of *Rosa rugosa*, and long, stout, prostrate stems. In England standards with weeping branches have been successfully grown by budding this Rose on the tall stems of other Roses, and it would probably prove one of the hardiest standard Roses which could be grown here. It can be trained over a fence or arbor, but can be best used to cover banks and the ground under other shrubs or small trees. The Japanese *Rosa Wichuraiana* was at one time largely used as a ground cover in the Boston Parks, but it has not always proved hardy, and *Rosa rugosa repens alba* is a better ground cover in this climate. This Rose has been growing in the Arboretum for several years and has now been planted on the fence close to the entrance to the Arboretum nursery on Prince Street. The two Rugosa hybrids raised by Dawson at the Arboretum have proved to be good garden plants. In habit *Lady Duncan* resembles *R. rugosa repens alba* but the stems are not as stout; it can be used as ground cover or trained on an arbor or trellis. The flowers are rather smaller than those of *R. rugosa* and pure pink, and the leaflets are smaller and very lustrous. This Rose was obtained by crossing *R. rugosa* and *R. Wichuraiana*. The Arnold Rose, *R. arnoldiana*, was made by Dawson who crossed *R. rugosa* with the hybrid Tea Rose, *General Jacqueminot*. It is a stout bush with good foliage and large, bright red, single flowers, and when in bloom perhaps the showiest of the Roses in the Shrub Collection.

—(*Arnold Arboretum Bulletin*)

The Rose in the House

BY JOHN A. WHITE

MANY a Rose lover has often wished that he might have this "miracle of beauty" as a house winter plant. Well, he may with comparatively little work.

All Rose culture must compass certain conditions;—good soil, fresh and well tempered air, moisture and protection from all insects, and, for abundant flowers, southern sunlight. If you procure your plants growing in pots from the greenhouse, keep them by themselves for a while, giving them special care, until you are sure that no insects lurk among, and that they may not drop their foliage, through change of atmosphere. If your plants come by mail do not unpack them until you can give them proper attention. Let them lie in tepid water while you prepare the pots. Nearly all florists direct us to place the plant in pots as small as possible; but I think in the dry air of the house, pots somewhat larger, with bits of charcoal, bone, (burnt or raw,) and gravel for drainage, give much better results.

You do well to exercise care in the soil of Roses. For me, a mixture composed of rich clay in much the larger proportion, a little leaf mold, and soil from the grassy edge of a well-fertilized spot, the soil being a bit sandy, has proved best; though I have secured excellent growth from the latter alone, using larger pots in succession. Spread the roots naturally, sprinkle in the earth, pressing it firmly into place, and set your plants, if possible, in an east window. Do not water again at the roots until dry, but sacrifice your window, giving the foliage, likewise the window, a fine, misty shower every afternoon until you see the plants are going to live. For this you may use a syringe or a small whisk broom.

If there is the least hesitancy in growth, or the leaves droop, wash daily with a soft brush or feather, rinsing it constantly, and never using the water for a thrifty plant after one that is drooping. If any flower buds start, remove them immediately, and cut back the plant promptly to the buds that show quick and thrifty growth.

After plants are growing where you wish them to bloom, they will need constant protection against the invasion of insects. I rid my plants of the aphis, etc., most effectually in the Fall by destroying all the little flies that sport upon the window just at twilight, when the plants are first brought indoors. In fact, strict at the very start, saves much work later on. Yet be always vigilant, else the minute buds will disappear so quickly you will think yourself deceived, or the bud whose unfolding beauty you are ready to enjoy will turn to one side and refuse to open, for the aphis has eaten at its base. Dipping the branches in weak tobacco water is an excellent preventative.

The red spider is also annoying at times. Immersing plants in water when small, and showering them when larger, will check the pest, or you may hold the plant firmly in position, and rinse the tops in weak soapsuds. By taking a brush, you can dislodge the insects. You will find spiders most numerous at the back of the leaf at the base, and along the midvein, their webs being mostly upon the old growth and where overhanging leaves have afforded shelter. As you look through your plant to the light, remove gently the seeming particles of dust upon the new growth, making sure they have no life. Pick and burn all yellow or fallen leaves.

Against mildew, I find sufficient protection by rubbing flowers of sulphur upon the first leaf which shows infection, at the same time powdering the plant and the surface of the soil so lightly that it is scarcely discernible. With the plants free from insects, if there is not satisfactory growth, one would be warranted in suspecting worms at the roots. I receive most speedy improvement by soaking the soil, draining or skimming off any animal life that may arise, then applying a thin coating of finely pulverized soot. Again, I thrust the phosphorous ends of a few matches in the pots, and saturate the soil with lime water; this always seems to give a beautiful verdure to the foliage. A few drops of carbolic acid solution added in watering plants is freely and successfully used by many. It needs caution, however. It surely kills the worms, but it will also hurt new and fleshy growth of the plants if it be too strong.

If you live in a cold climate, you must be careful of chills and severe draughts, especially upon buds. Let all soaking and showering be done in tepid water and when you can insure mild temperature. There must be fresh air, of temperature not often above 70° in the daytime, cooler at night. Never leave plants too near glass on severe cold nights.

If you wish to keep a large specimen, as a *Marechal Niel*, and weight is an objection, place it in a tin dish with ample surface and thorough drainage. Like the Fuchsia, the Rose delights in tin, and you can cover or paint in good taste, and the beauty of the plant will silence criticism. A box upon rollers is also a good way of housing one of these Roses. Usually one will gain more satisfaction from a greater variety in smaller pots.

Roses incline to periodical blooming, with one longer season of rest each

year. This longer season you may arrange at your pleasure, by denying free growth and blooming until you wish. Observing in the garden, you will note that they send forth most rapidly the shoots bearing flower buds after a rainy season. When the buds are well towards blooming and for a space of time lasting until after the flowers are cut, I do not urge them, but afterwards shower and add fertilizers. You may fertilize very freely at any time when there is thrifty growth, for the Rose is a luxuriant consumer of food. If you desire speedy succession of bloom, you must place your plants every day the same side to the light, especially if you have only an ordinary window. Sometimes, when all has been done, a choice bud will refuse to expand. Keep all buds well washed, and you may assist by breathing into them, by carefully manipulating, or, if the calyx adhere, gently separate it.

The faint-hearted may count this too much care altogether, yet a dozen Rose plants surrounded by most adverse circumstances, with active, intelligent care, will not require over an average time of five minutes each day; and if thus we can secure abundant bloom, how much more easily if it be done under favorable conditions.

What varieties are most suitable for this culture? My own has so fully satisfied expectations that I incline to advise from it. First, choose no novelties, unless you desire to experiment. You may rely upon the old "profuse bloomers,"—*Safrano, Bon Silene, Hermosa, Madame Margottin, Madame Rachel.*

Experience often differs in respect to varieties, for the reason, perhaps, that plants rooted from cuttings sometimes possess diverse tendencies; as one shoot from *Perle des Jardins* gives us the *New Sunset,* and, as one may often observe in a bush of two branches, where there is a constant recurrence of bloom upon one and little or none on the other. It is better not to expect as many flowers upon the choicer varieties as upon the old *Sanguinea,* though, possibly, some varieties may bloom as freely.

La France is sure of favor; *Catherine Mermet* and *Perle des Jardins* are beautiful to bloom, and their attractive foliage is a source of constant pleasure. The *Marechal Niel* secures for all its favor by its fragrance, which is unsurpassed.

A few of the most free blooming varieties in pots plunged in the open borders will supply steady bloom from June till December. *La France* will usually bloom sparingly in the Fall, but will begin to flower beautifully in January. In northern latitudes all buds increase in size during January and February. When your plants have finished blooming they may be removed to the cellar until it is warm enough to set them out of doors.

If I were so unfortunate as to fail in blooming my Roses in Winter, I should bed out my plants in the Spring, laying branches for new growth, studying the habits more closely that I might provide more suitable conditions.

There is no plant so sensitive to sympathetic treatment as the Rose; so quick to resent an injury; and yet so tenacious of life, even when reduced to the merest stalk; and so ready to send forth its blossoms with the first attentions. You can revel in their sweetness if you give them just ordinary care.

Yellow-flowered Roses

Of Roses with yellow flowers there are only five species growing from the Caucasus to the Himalayas, in central Asia and in western and northen China. One of these, *R. simplicifolia,* from Persia is not hardy in New England. The first of the four species to bloom here, *R. Hugonis* from western China, perhaps the handsomest Rose which is hardy in this climate, has been described in earlier Bulletins and is already out of bloom.

The next of these four species to bloom here, *R. Ecae,* is a spiny shrub with small leaves and pale yellow flowers not more than an inch in diameter. It is a native of Afghanistan where it is common on mountain ridges and at Samarkand, and although of some botanical interest it has little to recommend it as a garden plant in this region. It is very hardy, however, grows into a large plant and flowers freely.

In 1820 an English botanist found in a collection of Chinese drawings in London the picture of a double yellow Rose to which he gave the name of R. *xanthina,* and many years later the single-flowered form of this Rose was found growing wild in Mongolia by the French missionary David. Often confused, especially in Europe, with *R. Ecae* it apparently was not cultivated in the United States until 1908 when the Arboretum received from the Department of Agriculture seeds of this Rose gathered in China by its collector, Mr. F. N. Meyer. Both forms are in bloom in the Arboretum and are much cultivated in the gardens of Peking.

The last of the hardy yellow-flowered Roses, the so-called Austrian Briar, has suffered from too many names, the oldest of which must be adopted for it, *R. foetida,* is unfortunate as the flowers have a slight odor which some persons do not find pleasant. Although long known in gardens as the Austrian Briar, it is probably nowhere a native of western Europe but an inhabitant of the Crimea, the Caucasus, Persia, and probably central Asia. It has handsome bright yellow flowers and when it grows well is one of the most beautiful of all single-flowered Roses, but in this climate the plants are usually short-lived. The Copper Austrian Briar, which has petals yellow on the outer surface and dark copper color on the inner surface, is believed to be a variety of *R. foetida* (var. *bicolor*). There is a double-flowered variety of *R. foetida* in the collection (var. *persiana*), known as the Persian Yellow Rose. This plant was sent from Persia in 1838 and is sometimes cultivated in American gardens.

—(*Arnold Arboretum Bulletin*)

The Old Roses

AS TO Moss Roses inquired about by W. A. Bridwell: There are at least three distinct varieties obtainable. The white is *Blanche Moreau;* the pink is *Princess Adelaide;* and the red is *Henri Martin.* Of course, the old-fashioned Crested Moss is still obtainable from nurserymen. There are no modern Moss Roses.

I don't know what he means by the "Velvet Rose," but the early-flowering, single-yellow, exceedingly-thorny Rose that the school children kept picked off as fast as they opened, was probably *Harrison's Yellow* which, by the way, is not single, although nearly so. *Harrison's Yellow* is beyond a doubt the finest yellow Rose suitable for severe climates. It has *Hugonis* backed so far down the map that they ought not to be mentioned in the same paragraph.

I wonder if Mr. Bridwell would care to describe further the "Velvet Rose." There were two old-fashioned Roses which I have kept track of from childhood, one of which is a low-growing, almost creeping sort of plant which grows up along the roadsides and near the foundations of old buildings. The flowers are large, deep crimson, not full double and very fragrant. This I have partially identified as the old *Red Provence.* The other, and which I suspect to be the one which Mr. Bridwell refers to, is a very tall arching bush with smooth stems, sometimes covered with a bluish bloom like a Raspberry cane, which blooms in long wreaths of deep crimson or rather purplish flowers, very early in the season. This was also in bloom just about the time school was out in the Spring, and it has been identified as *Rosa l'Heritierana,* which is a form of Rosa Alpina belonging to the group known as Boursalt Roses.

G. A. STEVENS, (Penna.)

Summer Weather of 1926

The Editor suggests that for the month of August and a part of the months of July and September, the highest humidity that he remembers has been experienced here in Northern New York. While the rainfall has not been excessive, although liberal, the unusual percentage of moisture in the air has been very noticeable. The outside front door of THE FLOWER GROWER office building has swelled so as to make it stick, which has not occurred before in 15 years.

Although crops made a late start, owing to cool weather, this season has produced an enormous and almost tropical growth of everything, including weeds. Incidentally, blight, mildew, rust, and similar troubles have been rampant.

Without referring to the records, it would seem that the season of 1926, in Northern New York, has set a new record for high humidity and the resulting rapid and luxuriant growth.

PROPERTY RIGHTS,— OUR OWN AND OTHERS

The article in the May number, by George White, certainly raises an important issue; but raises it on an exceedingly unsteady foundation. The other side of the question runs broad and deep.

From what premise, legal or moral, does he draw the conclusion that "No such right of property attaches to land as to the products of labor"?

Certainly no such contention would be supported in any court of law or equity; and it would be difficult indeed to produce a valid moral reason why "natural equal rights" should apply with greater force to a desire for recreation in the country, than to the necessity for food, warmth and shelter,—in regard to which far greater and deadlier inequalities exist in the city than in the country.

Even in the matter of recreation, the "submerged tenth," lacking the autos which would enable them to spill themselves all over the country, might, with equal logic, claim the "natural equal right" to invade the beautiful grounds of more fortunate city dwellers.

The privately owned "or rather held" home grounds of the city dweller is LAND, just the same as the broader holdings of the farmer; and any attempt at exclusive use or enjoyment of it, is subject to the same law—or the same "natural right" to disregard the law.

And undoubtedly the dwellers in small, hot flats, minus any ground at all; or the hordes of crowded humanity in tenement districts would find as much needed recreation in picnic meals, plus a cheery little bonfire, on the private grounds of other city people, as the latter find in similar pursuits on broader holdings in the country.

Further, the distinction between "right of property" attaching to land and to "products of labor," ignores the facts;—first, that title to land is, quite as often as title to anything else, a direct product of labor; and second, that the farm itself—wild land reclaimed and turned into habitable country—is the product of harder work than the average city owner of an auto usually indulges in.

In passing on the question of what rights or privileges the public is entitled to claim, one must remember that the "public" is an animal possessed of neither heart nor conscience nor common sense,—as any curator or caretaker of property to which the public is admitted (including tourists' camps) knows to his sorrow.

The strange part of it is, that this same public is composed quite largely of people who, *in private life*, appear to be possessed of all three. But taken as a whole (and that is the only way it can be taken) the public is a dangerous animal, and must be treated as such—*unless it mends its ways.*

Probably few would dispute that the average country dweller was far more hospitably inclined toward passing strangers than the average city dweller, before the autos engendered such a flood of irresponsible non-residents; and the cause of the farmers' change of front is to be looked for among the autoists themselves. They are merely reaping what they have sown.

And where bottles, tin cans, picnic waste, and blackened embers are sown broadcast, it is not surprising if a liberal crop of "No Trespassing" signs spring up.

Mr. White is begging a large part of the question, when he speaks of passing over "*without damaging*" country places. For that is the whole trouble in a nut shell. If the passers-over had done no damage—had appreciated what they received; and been as strenuous in respecting the rights of others as they are in asserting their own claim to rights and privileges—there would have been few trespass signs.

They enthuse loudly over how much they "*love* the country"; but they "love and ride away" leaving devastated beauty behind them—as heedless of the rights or pleasure of other motorists who may pass that way, as they are of those who own it; and in whose more restricted lives, those near-by beauties are often all they can ever see.

This in itself is enough to warrant the signs; but this is not all. They dig up, and cut down, and mutilate, trees and plants; appropriate wild flowers; steal fruit; leave gates open; endanger lives and property by their carelessness with bonfires and cigarettes; and their "study of wild life" too frequently consists in violating the game laws.

It is precisely this spirit and attitude—viz., that country people have no rights that city people are bound to respect—which has caused the ever-increasing horde of autoists to be hated worse than a swarm of locusts.

Of course, there are exceptions. There are people who can own an automobile, and ride far from the place where they are known and can be held responsible,—and still retain their sense of responsibility and good citizenship, and respect the rights and feelings of others, as carefully as they wish their own to be respected. But in this matter, as in many others, the innocent must suffer with the guilty, since there is no practical way of separating the sheep from the goats.

And are the "Rubes" and "Hicks," on their infrequent visits to town, given the same hearty welcome and accorded the same free use and occupancy of private grounds as is expected from them? Well, hardly. There is never any doubt in the mind of the city man that any land which he holds, either as owner or tenant, is as much his own private property and exclusive possession as anything else which he has paid for.

On analysis, Mr. White's entire contention appears to be nothing more or less than a naive repetition of the age-old socialistic doctrine that "Wot's mine 's my own, but wot's another man's aint his'n."

NELLIE B. PENDERGAST, (Minn.)

FLOWERING BULBS FOR THE HOUSE

Flowering bulbs are always things of great beauty in Winter and are all too rare in country homes. They are so easily grown one is sure of bloom and the expense is very small,—a number of several kinds of bulbs costing less than one flowering plant at the florists.

Bulbs have always been available in October, the month to get and plant them. Just when we are saying good-bye to our outdoor flowers we have these interesting things to turn our attention to. They are planted and set in a dark corner of the basement for about three weeks, or until they are well-rooted and the bud set. Then they are brought to light about three or four weeks before we plan on having the flowers and soon blossom out in wondrous beauty.

Chinese Lilies are always put in a dish with water and pebbles, the pebbles to stay the plant and hold the roots. We prefer the others in sandy soil, though water is used by some. The work is much less than for the ordinary house plants and results so well repay us, that we would not think of doing without Hyacinths, Narcissi, Chinese Lilies, etc.

Often a plant is sent to a friend or neighbor and is a gift much appreciated.

MRS. CHAS. A. RASMUSEN, (S. Dak.)

SCORE CARD FOR ZINNIAS

The following score card for judging Zinnias, as mentioned on page 332 of the July number of THE FLOWER GROWER may prove helpful. Mere suggestions sometimes help one to fully decide:

ZINNIA SCORE CARD

1*—*General Effect*		50 points
a—Artistic arrangement	20	
b—Harmony of color	20	
c—Vase or holder	10	
2*—*Composition of bouquet*		50 points
a—Perfection of bloom	20	
b—Condition of bloom	20	
c—Condition of foliage	10	
		100 points

*1—a—Loose, not squeezed
c—If decorated container, decoration should be inconspicuous, but undecorated desired. Neutral colored container, to enhance beauty of flowers.
*2—a—Bloom fully developed and perfect.
b—Fresh bloom
c—Insect free and healthy color.

A NEIGHBOR-BOX OF FLOWERS FOR THE SICK

We would set tables in the church dining room and take of our most beautiful flowers to adorn it. One night I said to one of my friends, "What shall I do with my flowers, the only sick person I know of, already has some of them?"

Now it happened my dearest friend was very sick, in fact, her life was despaired of, all our hearts were heavy, for all loved her, so this friend turned to me with misty eyes, "Do you know," she said, "I wish we could send a box of flowers to————." (She was out of town, to be cared for in the home of a relative.)

So we decided to do it, and told our other near neighbors. We all took our flowers to the home of the one who first spoke of it, for she was most centrally located. There were six of us, and we visited the garden of the sick friend, and selected the best of hers. As soon as the flowers reached the house they were put into cold water. Pails, pans, anything that would hold water was pressed into service, all were taken to a cool room, only the floor was large enough to hold them all.

A box was decided upon, of suitable size, lined with waxed paper and then greens were placed in bottom and up sides. Little chunks of cotton batting were pulled out and soaked in water, then wrapped around ends of stems, usually putting two flowers together in one cotton, and placed carefully in box.

We studied to have the effect varied and pleasing all the way down, but put the larger, heavier flowers in bottom, finishing top with Roses, Anemones, and White Day Lilies for fragrance. A card was dropped in with all our names, covered top with wax paper, closed box, wrapped with thin paper, tied with small twine, then recovered with heavy paper and cord; addressed and pasted on a shipping label and a special delivery stamp. The rural mail carrier had passed his farthest point, and was on way back toward town. The box reached its destination with its flowers in perfect condition, though it traveled all night, and not only the sick friend was cheered by them, but her relatives also were touched that we had so pooled our flowers and affection.

This seemed a happy thought, for we each put in only our best Dahlias, Glads, Roses, Day Lilies, Asters, Hollyhock tips, Geranium, Anemone, Cosmos foliage, Asparagus foliage, Rose Geranium leaves, large, fragrant and dark green.

We talked of the friend, how kind to all, how we should miss her if she didn't recover to return to us—but God gave her back to us, and she is back in her own flower garden—dearer than before to the friends who remembered her "en masse."

IVA REED, (N.Y.)

MAKING A PANSY BED

I have a very simple method of making a Pansy bed, that is very successful, although crude.

Had a man dig a long bed, about three feet deep and the same in width, fill it with fresh horse manure, then with some straw, then cover it with about three inches of any common garden soil free from rocks. Then I watered it good and proceeded to plant my seed, just as I plant Turnip seed.

I have had that bed for four years and it is beautiful. It is in a good place and gets the morning sun. A Weeping Willow tree throws a gentle shade over it, and by twelve the sun is gone. I never protect in Winter and the snow covers it for a long period at times.

I water this bed only occasionally with a watering pot, that has a fine spray. Too much water is bad for their feet.

My Pansies are very thick. That is what has kept their roots cool and they bloom incessantly, with very large perfect blossoms and good stems. They should be picked daily.

"AIDA," (Ariz.)

GROWING FRINGED GENTIAN FROM SEED

B. Stroud makes inquiry in THE FLOWER GROWER about growing the Fringed Gentian from seed. I can report better success than he had.

In the early Winter of 1923, November I think, I received a quantity of seed from a friend with instructions to sow it at once. Though the ground was covered with a light fall of snow I immediately scattered the seed. It was so very small that it was mixed with a quantity of sand for sowing. The seed was broadcasted on meadow land which is neither burned-over nor grazed. Either will destroy the plants. Land which is slightly moist though not marshy seems best.

The Fringed Gentian makes only a small growth the first season and probably could not be found before it blooms in the Fall of the second year. The plants form small rosettes of the size of a silver quarter or half-dollar at the end of the first growing season. No blossoms can be expected before the end of the second year. After blossoming and ripening seed the plants die.

In order to start a succession of blooms one should sow seed at least two years. This last Autumn we had a good number of flowers. I have now sowed three successive Falls and look for a successful naturalization of this beautiful flower. Before this no Fringed Gentian ever grew in our locality as far as I can learn.

The Fringed Gentian is one of the most attractive of our wild flowers for several reasons:—The blue is very intense; the delicate fringing of the petals is entrancing; the flowers keep fresh for a long time in the house; and the season of bloom is late Fall, continuing well up to cold weather, when most flowers have been killed by frost.

I have not found the seed ready for harvest until after our first snows.

Two years ago we brought seed of the Closed Gentian from the Adirondacks and sowed them on the edge of the garden. They germinated well but every one died before Autumn. In some way the conditions were not right. If I secure another supply I will follow the plan adopted for the fringed variety.

WM. F. LANGWORTHY

FILBERTS

Filberts and Hazelnuts may be alike botanically, but they are very different in the quality of the nut; the Filbert being much tenderer and more meaty; the Hazelnut having much woody fiber in its composition. The characteristic flavor is a little stronger in the Hazelnut, but the Filbert is a better food.

Filberts are not safely hardy here. They can stand a lot of cold, but our long Fall (southern Missouri) starts the foliage before Winter, and the leaves and freshly growing twigs winterkill back to harder wood, thus destroying any hope of fruit, and also preventing the bush making any headway in growth, as all it can do the following year is to recover from the freeze of the Fall before.

BENJAMIN C. AUTEN, (Mo.)

THE PASSION FLOWER

In Florida the Passion Flower grows wild and is perennial, blooms profusely, and is a rare and beautiful thing. They are lilac in color, with white and purple markings.

I had a fine plant given to me by a friend in California. It was very sturdy and makes a wonderful growth. I kept it as a house plant, in the bath room, which I have found a very good place. The moisture in the air, both hot and cold, seems to produce fine results. I was called away, so had to leave it before it bloomed.

Perhaps one of our California readers will be kind enough to tell us about it. I see the seed advertised in Shumway's catalogue, and I find they come easily from seed.

The wild ones have long, green fruits, egg-shaped with a juicy pulp. Some people eat them and they are not bad.

"AIDA"

OLD SINGLE HOLLYHOCK

I was interested in Mr. Bridwell's lamentation about the old flowers in the June FLOWER GROWER. I think all that Mr. Bridwell needs to do to obtain the old single Hollyhock is to sow a package of Hollyhock seed, obtained from a corner drug store for a nickel. At least it is a chance worth taking.

I succeeded in obtaining the old-fashioned small Pansy which I remember as a boy, by buying a package of Pansy seed from a fly-specked, broken-down box of miscellaneous seeds in a butcher shop, and thus I obtained relief from the corn-fed, plethoric, ruffled Pansies now so much in vogue.

G. A. STEVENS, (Penna.)

HOLLYHOCK SEEDLINGS VARY

Do Hollyhocks come fairly true from seed, as Sarah A. Pleas says in the August FLOWER GROWER? My experience with a lot of 70 plants is that they do not.

Four years ago, while visiting my father in Massachusetts, I admired some fine Hollyhocks which he was growing. When the seed ripened he packeted separately some from four plants—a double pink, and single white, red and yellow.

The next Spring I sowed the seeds in rows, properly labeled, and grew a lot of good plants. These bloomed the year following and the great majority produced flowers of delicate shades of autumn tints, some single and others double. There were very few of solid colors like their parents. Evidently the bees and other insects did a thorough job in cross-pollination.

EDWIN C. POWELL, (D. C.)

JAPANESE IRIS

Japanese Iris want a low place where water will stand after a storm. Then cultivate during drouth.

In such a place ours grow out of all bounds—we had eight weeks last year with no rain and Irises came through in fine shape. A wet season always produces some Iris rot.

MRS. WM. CRAWFORD, (Ind.)

ROOTING GERANIUM CUTTINGS

Last Spring I got a number of Geranium cuttings about four inches in length.

I set in four-inch crocks, and removed all leaves from them, except the tiny ones at top.

I set them in a cool shady place for about two weeks, when I gradually brought to sun and in a few weeks I had the finest-looking plants.

A new shoot had put out where I had removed each leaf, and I had the loveliest bushy plants, some 6 to 10 inches in height and full of buds.

They bloom freely all Fall and Winter without the tall unsightly growth often seen.

MRS. L. L. LITTLEFIELD, (Md.)

Timely Suggestions for October

BY BERTHA BERBERT-HAMMOND

(Southern New York)

Let other singers chant the cosmic way
October reddens on the hills to-day.
Doubters of beauty, do you understand
The Autumn of the world is in your hand?

IN OCTOBER the beauties of Autumn are everywhere revealed. Warmth and richness of coloring in leaf and in flower are at their height and forest, field, roadside and garden seem glorified.

Feast your eyes on all this autumnal beauty while it lasts, but bear in mind the fact that in only a few weeks' time wintry weather will be here and unless one has the forethought to provide plants to take the place of summer flowers a blossomless Winter will result.

Gay berries and similar things help to brighten rooms, so while on those delightful woodland rambles, keep watch for natural materials that may be employed in your vases and flower bowls. You will be surprised at the decorative and lasting qualities of bright berries, and silvery pods.

Be sure to secure a few sprays of Bittersweet for nothing else you may find will give you more pleasure and lasting satisfaction. A long branch may be used to drape gracefully a picture or mirror while shorter ones are lovely in a low flower bowl.

To save a large vase or urn from a Winter of idleness, gather and place in it some Cat-tails and long stalks of Milkweed on which are groups of dry pods. Branches of Sumac or Mullein are also appropriate for large receptacles.

Of course you have been preparing for some time for your window garden by potting and placing in a sheltered situation such plants as are intended to bring cheer and bloom into the home during the winter months.

While the success of the indoor garden depends to a considerable extent upon the selection of varieties to be grown, it is not easy to name the "best" plants for indoor culture because conditions in various homes differ widely.

If your home is heated by a furnace, if you wish to be successful with window plants, you must plan to introduce moisture into the air of the rooms and to keep the temperature at a moderate degree day and night.

Even where conditions are far from ideal with a little care such plants as the Aspidistra and Geranium may be successfully grown. The Chinese Primrose will also endure dry, warm air and changes in temperature.

If you have a cool room Fuchsias, Asparagus Sprengeri, and Sword Ferns will prove a wise choice. Potted bulbs also thrive in a cool window. As long as the temperature does not drop to freezing, these plants will hold their own.

Do you know that the Cyclamen, Amaryllis, Begonia, Calla, Freesia and similar house plants may be readily grown with only ordinary care in a room where the air is kept moist by evaporation and the temperature is kept from 45 to 65 degrees?

Unless one is experienced and the conditions are just right do not attempt to raise indoors plants like Roses, Violets, Rex Begonias and Orchids. Leave that to the professional florist, and devote your time to plants less exacting.

If your success in securing flowers with house plants is not as great as you think it should be why not try forcing bulbs into bloom? Bulb culture is really most fascinating and simple, and if high grade bulbs are purchased every bulb is sure to bloom.

Perhaps the best bulbs for ordinary indoor culture are Hyacinths, Crocuses, Snowdrops, Narcissi, Freesias, Scillas, and Tulips. If the bulbs are not already on hand, secure them without further delay. Pot them and store.

For potting use rich, sandy soil well mixed with leaf mold and a very small percentage of old manure. Sifting the soil will be of benefit. Fill the pots a little over half full, put in a layer of sand, place the bulb on the sand and cover with soil.

After they are potted, water the bulbs well, and set them away in a cool dark place. Leave them in the dark for at least four weeks. A longer time will be better, as they need time to make ample root growth. In the interval give water if it is necessary.

Besides growing them in soil, try forcing some Hyacinths in water. Secure the regular hyacinth glasses if you can, fill them up to the shoulder with soft water and place the bulb in the rounded neck provided to receive it.

Though some varieties of Tulips are readily forced, they rarely produce flowers until after the New Year, with the exception of the small variety known as the *Duc von Thol* which is a rapid grower. This sort may also be grown in water like the Chinese Lily.

Purchase now any Ferns that you may require for winter decoration, for they will require time to grow accustomed to the new conditions. If moved from the greenhouse directly into the dry air of a heated living room this class of plants is bound to suffer.

Plant outdoors this month the various kinds of Narcissi and lesser bulbs, as these generally deteriorate if kept out of the ground too long. Tulip bulbs need not be planted until next month. In fact they may be planted even in December.

If it has not yet been done there is still time to divide and reset Irises. These plants that are so beautiful in the garden are so easy to propagate. Just dig up the clumps, separate with the fingers and re-plant the divisions made.

If new stock is to be planted be sure to purchase really good kinds. As many of the desirable varieties are quite inexpensive this may easily be done. Try *Quaker Lady, Prosper Laugier, Isolene, Wyomissing, Dalila, Perfection, Asia, Iris King, Her Majesty, Magnifica, Mrs. Neubronner* as these are very good.

Move house plants to their winter quarters before they are injured by frosts. Dig, cut off the tops, dry off and then store in a frost proof place, the tubers of Dahlias, Cannas, Tigridias and similar summer blooming plants. Provide some sort of cheap light covering to throw over later blooming garden plants to prolong the blooming season.

Sir Thomas Explains

Our Cat, had he a temper in proportion to his size, would be a menace anywhere. In size and color he is almost the equal of any Bay Lynx. But he has the temper of a Kitten. And he is a great talker;—not only when he wants to eat; but on various other occasions.

Several days ago I heard the Birds holding a cussing match in the big Live Oak that stands before the house, and as Coach-whip Snakes are very plentiful here I grabbed a hoe and started to investigate. Before I got close enough to see what was in the tree I heard Sir Thomas talking. He saw me first, and knew that he was caught with the goods.

Instead of jumping out on the far side and slinking off, as many of his tribe would have done, he came toward me, tail sticking straight up, and the stream of flattery that he gave vent to would have melted a harder heart than mine. He examined the hoe and pretended to be greatly interested in it, all the time keeping up a running fire of blandishment. As is usually the case, he got off without even a lecture.

W. A. BRIDWELL

Month by Month with the Flowers
October

BY CHARLOTTE S. ALLISON, (Tennessee)

USE no water in bulb planting outdoors.

The proper time for planting hardy shrubs is just after the first hard frost.

In preparation for planting bulbs in the garden beds, the soil should be loosened to a depth of fifteen inches.

The Gaillardias continue throughout October to brighten the garden with a profusion of gay blossoms. The seed pods of the Gaillardia are quite as attractive as the flowers.

By the latter part of this month it is advisable to lift such tender summer-flowering bulbs as Gladiolus and tuberous Begonias. Dry them out and store away in a dry, cool place.

In planting perennials do not set the clumps too close together. A good and tried rule to follow is to plant them a distance apart equal to height of the plant when fully grown.

If one makes the rule, and adheres to it, of planting at least one new perennial plant each Autumn, reserving the next season's seed crop for increasing one's stock, ere long the perennial border will be well filled and a thing of beauty.

As soon as the Dahlia tops are killed by frost the plants should be lifted; the tops cut off about 12 inches above the crown; the tubers allowed to dry in the air for a few hours, and then stored in a dry place.

In setting or transplanting perennials at this season care should be taken that the clumps are set in the earth at the same depth at which they were formerly growing. In the case of plants just received from the florist, a glance at their stalks will determine what this depth is to be.

While Anchusa italica dropmore should be included in every garden collection of perennials on account of the intense blue of its blossoms, it is advisable to plant it as a background instead of at the inside of the garden path, on account of its foliage which is rough and extremely uncomfortable to the touch.

Bulbs of the Paper-white Narcissus, American grown, should be placed in bowls of water and pebbles in this month in order to have them in bloom in time to grace the Thanksgiving table. We have to pay more for these bulbs this year than we have been accustomed, but we must have them at any price.

Gather all the Everlasting flowers before the fall rains set in. Tie them in bunches, with heads down so the stems may be straight, and hang in the attic or some cool place to dry. It is well to dry some with their heads up and the stems gracefully curved, to avoid that stiff look when massed in a bouquet.

Chionodoxas, or Glory of the Snow, belong in the group of early, spring-flowering bulbs, and are companions to the Crocus and Snowdrops. With dark blue flowers with white eye, 6 to 10 blooms on a stem, they are splendid for borders. The bulbs should be planted in October, 2 inches deep and 2 inches apart. Require but little attention and are hardy.

Did you plant Campanula carpatica as an edging for the flower borders? If you did, then your borders in October are still edged with myriads of clear-blue flowers, held erect on wiry stems. The plant never exceeds a height of 8 inches, the flowers beginning to appear in June, continuing throughout the Summer and well into October. What better plant could one ask for the purpose?

When one discovers a flower that does even better than the catalogues claim, it is well to let others share the find. Such a flower is Salvia azurea. The catalogues claim that it produces flowers during August and September. Beginning to bloom the first of July, and continuing to bloom until the middle of October, a two-year-old plant of this variety, with no special cultivation, has far surpassed the claims made for it in the catalogues. As the name indicates, it is blue in color.

By the middle of this month the beautiful pink flowers of the *Lillian Doty* Chrysanthemums are in full bloom. The long flower stalks produce 8 to 10 perfect blooms on one stem, thus giving the beholder the impression that the plant is made up of numerous individual bouquets. Of the standard Pompons this variety is rated as the finest pink. It is also admirable for those Mum enthusiasts who delight to disbud and obtain exhibition blooms.

The roots of shrubs while being transplanted should never be exposed for even a few minutes to wind and sun. Have a piece of moist burlap ready and when the ball of roots and earth is removed from the ground, unless it is to be planted immediately, wrap it around with the moist burlap. If the shrub comes from the florist with its roots wrapped in burlap, then place in a tub without removing the covering, and pour in a little water at a time until it will absorb no more.

Late Autumn is the best time for planting Ferns outdoors. An eastern exposure is preferred, as the plants do better when not exposed to either the intense sunshine or full shade, though they succeed almost as well on the north side of the house. Ferns must be planted so the crown is above ground. As this means shallow planting, the newly set out plants should have a mulch of grass clippings or leaves an inch thick spread about the roots to prevent the ground drying out.

Cuttings of hard wood should be taken after the plants have become dormant in the Autumn; this month being a good time for the work. The cuttings should be from 6 to 8 inches long and have at least 3 pairs of buds to a cutting. Cut the lower end slanting;—some people prefer to pull the cutting from the parent stem of some plants so that it will naturally have a slanting surface and a heel. Have the soil prepared nicely and holes made to receive the cuttings; plant deep in the ground and firm soil about them.

The belief is rapidly gaining ground that it is beneficial to perennial plants to leave their fallen tops on the beds until the following Spring. Not only do the tops afford winter protection to the plants themselves, the very best protection that can be had because it is Nature's own plan, but the tops also help to hold in place and with greater security other mulch or covering that may be added. Of course this offends one's sense of neatness, and makes the herbaceous border anything but a thing of beauty; but, if it is for the good of the plants themselves, then away with all false ideas of aesthetics.

Remedy for Cut Worms

FREQUENT complaints are heard regarding the depredations of cut worms which seem to be working unusual havoc this season with small fruits, vegetables, and other crops. Reports of serious damage in Strawberry, Raspberry, and Grape plantings have been received by the entomologists at the State Agricultural Experiment Station at Geneva and have led the Station specialists to issue a statement setting forth effective methods of controlling the pests.

For quick results, an inexpensive poison bait is recommended, either broadcasted in the field or, in the case of small fruits, sprinkled about the base of each plant. The following formula is said to provide enough material for five acres:

Bran, 20 pounds; paris green, 1 pound; cheap syrup, 2 quarts; three lemons; and 3½ gallons of water.

The bran and paris green are mixed dry. The juice of the lemons is squeezed into the water, and the peel and pulp chopped to fine bits and added to the water. The syrup is then dissolved in the water and fruit mixture and the liquid stirred into the bran thoroughly in order to dampen it evenly.

If a smaller quantity is wanted, the amounts of the different ingredients may be reduced proportionately. It is recommended that the poison bait be applied in the evening, because the cut worms are night-feeders, and the bait will thus be in a fresher condition than if applied earlier in the day.—(New York Agric. Ex. Sta., Geneva, N.Y.)

Planting the Spring Bulbs

GENERAL REQUIREMENTS

BULB planting time is with us from the beginning of October until the ground freezes. We usually do our planting, in Northern New Jersey, from the middle of October until Election Day. Soil requirements for Spring bulbs are not very rigorous; nearly all succeed particularly well on sandy loams, but they will also grow on sand or clay. A very heavy clay may be lightened by adding sand or coal ashes. If manure is used it must be old and well rotted, and very thoroughly mixed with the soil, for it must not be in actual contact with bulbs. which are very sensitive in this particular. Well-rotted leaf mold is desirable; so is bone meal spread over the surface when the bulbs are planted.

PLANTING

As to depth of planting, the rule in average soil is to set twice their diameter beneath the surface—some authorities say more. This brings Tulips, Narcissi and Hyacinths 4 to 6 in. deep, smaller bulbs less in proportion. The little Snowdrops and Crocuses may be set 2 in. deep, and 2 in. apart in clumps, or as an edging. They are also charming when planted in the grass along the edges of lawns, or to give the effect of a wild garden.

TULIPS

These are always great favorites, and they extend over a long period, from the gay little *Duc Van Thol* varieties that give the earliest blooms to the tall and stately May flowering sorts. One of the prettiest bits in our own garden last Spring was an irregular little path of stepping stones, bordered with lines of dark blue Grape Hyacinths (Muscari) and Cottage Boy Tulips; this is an early single sort of vivid copper color. The following are all good varieties for general culture: Single early, *Belle Alliance*, scarlet; *Chrysolora*, golden yellow; *Cottage Maid*, white edged rose; *Keizerkroon*, vivid red with yellow edge; *Vermilion Brilliant*, vivid deep scarlet; *Proserpine*, rose color; *La Reine*, pure white, very fine; *Scarlet Pottebakker*, scarlet; *Duc Van Thol*, scarlet, rose, yellow, white or crimson. We care less for the early double sorts, but they are handsome and last well in bloom. The following are all good: *Gloria Solis*, deep crimson bordered with gold; *Titian*, brown and yellow; *Tournesol*, red edged yellow, also solid deep yellow; *Couronne d'Or*, golden yellow; *Murillo*, rose; *Rex Rubrorum*, deep red; *Boule de Neige*, white. These early sorts are followed by Cottage Tulips, which include many shades of pink, yellow, orange and fawn, the Breeders, which are "art" shades of more somber mixed colors, the huge Darwins, and the Rembrandts, which differ from Darwins in being striped or splashed. We will name a few favorite sorts in each class, but there are many more just as good. Cottage: *Avis Kennicott*, deep yellow, very late; *Gesneriana Lutea*, golden yellow; *Gesneriana Spathulata*, dazzling scarlet with deep blue base, extremely gorgeous; *Inglescombe Pink*, rosy salmon; *Picotee*, white margined rose. Breeders: *Cardinal Manning*, wine shaded with bronze and violet; *Prince of Orange*, terra-cotta and orange, black base; *Turenne*, violet purple shaded bronze; *Bacchus*, deep violet; *Bronze Queen*, buff shaded bronze. Darwins: *Zulu*, velvety purple, almost black; *Clara Butt*, rich pink; *Philippe de Commines*, velvety purple; *Isis*, vermilion with blue base; *Flamingo*, shell pink; *Euterne*, silvery mauve.

HYACINTHS

These are more expensive than the ordinary Tulips, but very lovely. We have some clumps of Hyacinths that have been in the garden 10 years or more; merely lifted and reset at intervals of three or four years. They need good drainage and well prepared soil. Set 6 to 9 in. apart, and at a depth of 5 to 7 in. to the crown of the bulb. Cover with 3 or 4 in. of litter after the ground freezes, removing this by degrees in Spring. The following are excellent single sorts for bedding: *General de Wet*, light pink; *King of the Belgians*, bright red; *LaVictoire*, carmine; *L'Innocence*, white, extra fine; *King of the Blues*, dark blue; *Queen of the Blues*, light blue; *Grand Maitre*, deep lavender blue; *King of the Yellows*, deep yellow; *Yellow Hammer*, creamy yellow.

NARCISSI

The quarantine against these bulbs is especially discouraging to those who are only just starting to cultivate them. However, a comparatively small outlay will provide a glorious display of the older varieties. If restricted in choice we should select *Emperor*, a large yellow trumpet; *Empress*, yellow trumpet with white perianth; *Sir Watkin*, the Welsh Daffodil, with yellow chalice and primrose perianth, and *Poeticus*, the Poet's Narcissus. These are all very hardy, inexpensive, and will make a gorgeous show. The short trumpet or chalice cup varieties of which *Sir Watkin* is an example, are more airily graceful than the more solid large trumpet sorts. Two other very lovely families are the star Narcissi, varieties of Leedsii and Barrii, a great favorite among the latter being *Albatross*, having a creamy perianth and scarlet cup. Another charming class, not as yet so generally planted, consists of the Poetaz hybrids, which flower in clusters like the Chinese Sacred Lily, but are hardy. Plant Narcissi with the idea of permanence, but lift and reset every third or fourth year.

SMALL BULBS

The little Crocuses, Glory-of-the-snow, Squills, Grape Hyacinths and Snowdrops are all gay and charming, and cost but little. They are fine along the edge of the herbaceous borders. We have some in bloom in February most seasons, unless snow is too deep, and the little Snowdrops even peep up through a light snow. Crocuses are charming naturalized in the grass. There are Autumn flowering Crocuses, which make foliage in Spring, and then bloom in Fall, the best known being the Meadow Saffron, Crocus sativus. This blooms with us from the middle to the end of October, a pale lavender cup with conspicuous golden stamens.—(*Rural New-Yorker*)

A Zoo Romance

WE LIVED in a small town in central Illinois, about two hundred miles from Chicago, and almost every Summer we made a visit to that city. Of course a trip to Chicago always meant at least one day with the birds and animals in the Lincoln Park Zoo. On one such visit, when my daughter (then a little girl of eleven or twelve years) and I were making our rounds, we noticed a Lioness that was totally blind, and although both she and her quarters were scrupulously clean and gave every evidence that she received the same careful attention that all the animals had, she was very thin. Naturally our sympathies were aroused and we pitied the poor creature in her affliction.

During the following Fall, while reading the Sunday edition of the old *Chicago Inter Ocean*, we came upon an article written by Cy DeVry, who at that time was in charge of the Lincoln Park Zoo. The article announced the death of "Nellie" an aged Lioness who was born and reared in the Zoo. My daughter and I at once recognized in "Nellie" the poor creature we had seen some weeks before. Mr. DeVry gave quite a biographical sketch of Nellie and related a number of amusing incidents of her life.

When she had reached maturity they began casting about for a suitable mate for her, and finally Prince, a large male Lion, was purchased from the Ringling Brothers for her. Prince and Nellie were very devoted and there were born to them twenty-six cubs—all reared in the Zoo. The domestic sea, however, was not always tranquil and frequently, especially when there were young babies, there were arguments between Prince and Nellie and more than once Prince had been obliged to take to the sides of the cage to escape from Nellie's claws. Nevertheless, despite their little tiffs, they loved each other and spent many happy years together. At last old age overtook them and Nellie became blind some time before her death.

At the time of Mr. DeVry's writing Nellie had been dead three or four days and no one had been able to coax Prince to eat anything at all. The juiciest steaks were given him but he would only smell them and paw them a bit and walk away. He would stand for long periods of time at the bars of his cage and gaze off into the distance with a far-away look in his eyes, and we have often wondered what his thoughts were.

About two years later we were again at the Zoo, and while talking to Mr. DeVry, I asked what had become of Prince after Nellie's death. He replied that Prince never became reconciled to her death—never ceased grieving—and in less than three months after Nellie's death, Prince also died.

On a little grassy knoll in the Zoo grounds there are two twin graves with one head board for both. On the board are printed the two names "Prince and Nellie."

MRS. L. L. SACKMAN

The Busy Bees

The Queen Makes A Business of Being A Mother

BY FRANK C. PELLETT

BEEKEEPING was very probably one of man's first agricultural activities. Before the dawn of written history men kept Bees for their honey,—how long before there is no means of estimating. In the earliest writings there are numerous references to Bees and honey and a jar of honey was found among the wealth of treasures in the tomb of King Tut.

Although man kept Bees from the beginning of his civilization it has only been very recently that he learned how to utilize their labor to good advantage. Most of the inventions which have made Beekeeping worth while have been made within the lifetime of men still living. By the use of modern equipment and manipulation it is possible to secure many times the amount of surplus honey produced by the crude methods in use for so many centuries.

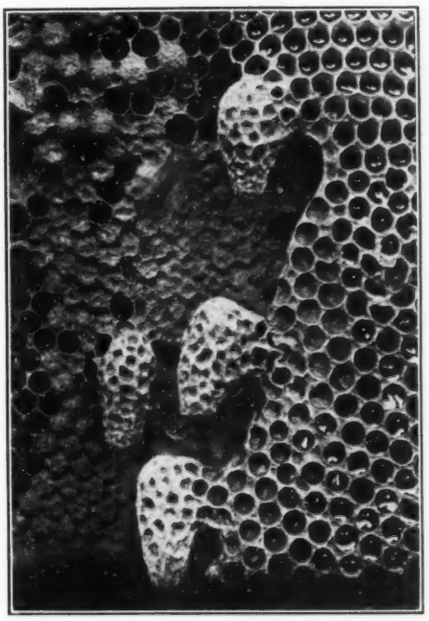
The fact is, that in many neighborhoods, Bees are still kept in much the same way that they were kept in the days of Noah. It is an easy matter to hive the swarms in boxes or hollow logs and at the end of the Summer kill the light colonies and the very heavy ones, leaving only the ones of medium weight for next year's increase. The light ones are killed because they do not have enough honey to carry them through and so will die anyway. The heavy ones because they are well supplied and will provide their owner with a liberal quantity of stores. When the Bees have been killed by means of burning sulphur in a pit over which their hive is placed, the combs are cut out and mashed up and the honey strained through a cloth. This is the origin of the term, "strained honey" so commonly heard. Very little honey of this kind goes to market in these days of commercial honey production.

The great advancement of the present day has come through a better understanding of the habits of the Bees which has made it possible to make the most of their labor.

The Editor has arranged with me to write a series of articles which will give something of the life and habits of the Bees; and later tell how they can be managed to make a good return on the labor and investment provided by their owners.

THE QUEEN OR MOTHER BEE

Much of fancy has been written about the Queen Bee. Her very name is misleading for there is nothing to indicate that she has anything to do with the government of the colony. In fact the very opposite is true for the Worker Bees are very solicitous concerning her and often oppose her will and restrain her actions. While old-time writers on Bee subjects saw in the Queen, "their lawful sovereign" and lauded the loyalty of the subjects which could not be tempted to any act



Queens are reared in large cells appearing like Peanuts

of disloyalty, "nor is there to be found so much as a single rebel in the community," present day Beekeepers know such talk is nonsense.

As far as can be seen such government as prevails in the hive is by common consent of the inmates with no individual direction. The Queen enjoys less freedom than any other inmate for the very life of the community depends upon her and she is cared for and protected accordingly.

The Queen devotes her entire attention to the laying of the eggs from which the future inmates of the hive shall develop. So great are the demands upon her that she is unable even to digest her own food entirely. A group of nurses attend her constantly, regurgitating partially digested food and feeding her at frequent intervals. Since she lays hundreds, and at times thousands of eggs daily, the amount of food which she must consume, in proportion to her size, is enormous.

One of the most amazing things in all nature is the change that takes place in the development of a Queen Bee. The egg from which she comes is no different than the thousands of others which produce Worker Bees, and yet she is a very different creature. The change is simply the result of the different environment in which she is reared. Instead of permitting her to hatch in an ordinary cell such as those in which honey is stored, she comes to life in a special cell of large proportions having much the appearance of a peanut and of about the same size. She is fed on a richer food for the entire period of her larval development; a food which Beekeepers call "royal jelly." Because of this richer food and larger cell her physical development follows a different direction.

The mature Queen is much larger in size than a Worker. She lacks the wax secreting organs of the Worker and instead her sex organs are fully developed. She lacks the pollen baskets and brushes which the Worker must have for gathering food for young Bees from the flowers by the wayside. Her eyes are different also. She will spend her days in the hive and does not need such keen sight to find the distant blossoms from which the food of the colony must be gathered.

The period of a Queen's development is shorter than that required by the Worker Bee. Only sixteen days is required from the time the egg is placed in the cell until the Queen comes forth fully matured, while twenty-one days elapses in the case of her sister who will do the work of the hive. Much that we know of the life of the Bee reads like a fairy tale and progress was slow because men refused to accept the truth of the statements of those who first discovered the facts. The mysteries of the hive have gradually been cleared up and our system of management fitted to the facts. Space will not permit mention of many interesting things in connection with the life of the Queen.

An Estimate of THE FLOWER GROWER

One of my readers who has just been out in the Fruit territory of the Pacific Northwest writes as follows:

"I was riding the other day with one of the best Fruitmen in the West, when I noticed a copy of THE FLOWER GROWER in his car. I asked if he was a subscriber and he said, *"Yes! I never saw a magazine in my life with so much interesting stuff crowded into it."*

"It developed that he was an enthusiastic amateur flower grower as well as a Fruitman, and that he had a fine collection of Dahlias and Gladiolus. No question but that the magazine is rendering a real service there."

The Iris

The Cultivation of the Tall Bearded Irises

BY G. L. PILKINGTON

Some observations regarding soil—its effect on growth and health and some remarks on rhizome rot

From *Bulletin of The Iris Society*, (English)

THE Tall Bearded Irises are admittedly impartial as to soil, provided good drainage and ample sunshine are afforded them. The presence of lime is also known to be beneficial. The effect of poor and light (sandy) soils as compared with rich and heavy (clay) soils on the growth, blooming and health of these Irises is, however, noticeably different, and it is of these two conditions, in their extremes, that I propose to write, having given both types of soil a somewhat lengthy trial during the past fourteen years. The natural soil of my garden was a rich loam with a subsoil of red clay and the drainage, in consequence, was very indifferent.

After a visit to Holland in May, 1911, where I saw Bearded Irises growing and blooming profusely in more or less pure sand I was tempted to try and reproduce the same conditions in my own garden in the hope of obtaining similar results.

The garden in question was a natural "sun-trap" facing due south and protected from the north, west and east by thick shrubberies.

The design of the garden comprised a large circular bed of some thirty feet diameter rising to a central point and intersected by flagged paths, thus giving me seven beds.

Recognizing that drainage was most essential, the first difficulty to be overcome was the clay subsoil. I, accordingly, set to work first to remove the top layer of loam and, having done this, I then proceeded to dig out the clay to a further depth of a foot and, having replaced it with broken bricks and old turf, I put back the original loam, adding an equal quantity of sea-sand.

I also laid land-drains round the circumference of the bed to carry away any surplus water.

The Irises were then planted (August) and, in the years 1913 and 1914, flowered exceedingly well.

During the following years, and until July, 1919, they received no attention owing to my absence with the Colours. By this time the different varieties had all grown into one another, and the garden was a confused mass. Furthermore, the fact that 1919 was a very poor season for bloom with me, and also that many of the labels had become illegible, made the task of identification a difficult one, and I had to trust to my original planting plan and memory to unravel the tangle. One feature, however, was most noticeable, namely, that all the plants had deteriorated greatly.

The growth was small and "thin," and the colour of the foliage was pale and anæmic, instead of being a good healthy green. I accordingly lifted the whole lot and replanted the strongest pieces, after partly remaking the beds by the addition of loam, at the same time giving a liberal dressing of basic slag, and also superphosphate of lime before planting. The growth in the following year (1920) was much improved, and the display of bloom moderate.

The plants, moreover, were pretty healthy, and I suffered very little from rhizome rot, although Irises growing in other parts of the garden were rather badly affected with this disease.

Since 1920, for comparative purposes, my new Irises each year have been planted in the natural soil; in raised beds, of course, with the addition of limestone clippings and basic slag and have always made very vigorous growth.

The amount of bloom has not been anything out of the ordinary, but a slight attack of rhizome rot last May (1923) deprived me of what promised to be a very good show of bloom.

The flower spikes which survived, however, were of very high standard, many being 4 feet in height and of great thickness and rigidity, the foliage also was of a good deep, healthy green.

Considering all things, I am of opinion that a rather heavy (rich) soil is preferable to a light (poor) soil, and is likely to give the best all-round results.

The light and sandy soil, undoubtedly, has some advantages, the chief of which is that the ripening of the rhizomes and consequent good display of bloom is almost sure to be better than in the case of the heavy, retentive soil, and the plants probably less liable to the attacks of disease. It is pretty safe to assert that a well-ripened rhizome will stand almost any climatic conditions.

The main disadvantage, however, of a light soil is its liability to become exhausted. This is bound to take place sooner or later, with consequent ill-effects on the condition of the plants; it therefore requires "strengthening" periodically if anything like decent results are to be maintained.

After all, Tall Bearded Irises can be grown anywhere, and by anybody, and are most accommodating plants in every way. I, therefore, am inclined to place vigour of growth and "quality" of bloom as the two first aims in successful culture and, given a good rich soil, you will certainly obtain them, and with a good hot September, you will get the "quantity" thrown in as well.

In common with most of our hardy plants, the Tall Bearded Irises should, after blooming in June, make their growth, then rest and "die down" during the late autumn and winter months.

From what we know of rhizome rot the plants are generally attacked just before, or during, the flowering season.

It is fairly clear that it generally is worst following a mild Autumn, when the plants continue growing late, and enter the Winter in a "sappy" state, with consequent "frosting" of the foliage in the Spring. The foliage thus frosted soon becomes limp, and, in many cases, the central growth will be observed to have brown markings on the leaves, the whole tuft eventually becoming slimy, and pulling away from the rhizome with ease. If allowed to remain untouched, the rhizome itself soon becomes affected and turns soft.

The Autumn of 1923 was, in some parts of the country, a particularly adverse one for Tall Bearded Irises. The weather remained very "open," and the rainfall was above the average—in fact, it was a "growing" Autumn, certainly in the northwest of England.

Irises were "growing" in the last week of October, and the first frost did not take place until November 10th. In consequence, the Irises did not really rest at all, and the consecutive weeks of hard frost in January and February found the plants in a thoroughly unripened and unprepared condition, with the inevitable result, rhizome rot!

It would be both interesting and instructive to collect annual reports from growers of Tall Bearded Irises throughout the country as to the incidence of this disease, giving "data" as to soil, climatic conditions, etc., from which comparative results could be compiled which should certainly lead to an increase in our knowledge of this subject.

I am certainly inclined to believe that in cases where the Irises had died down and rested in the normal manner, the losses would be found to be less severe than when the reverse was the case.

Siberian and Orientalis Iris

OF THE many families of Beardless Irises, the siberica and orientalis are very valuable; blooming as they do at the close of the regular Iris season, and giving some blues and purples that we do not get from the Bearded Iris. These two families are very closely related, and will cross-pollenize freely. There are several garden varieties, some true to type, others showing their cross-breeding.

Siberian Iris *Distinction*

The siberica type is characterized by narrow grass-like foliage, small blooms on tall stems, and rather narrow falls. The foliage of the orientalis type is broader and the blooms do not much exceed the foliage in height; while the falls are relatively quite broad. *Blue King* and *Snow Queen* are indispensable, and *Perry's Blue* has won great popularity on account of its large size and clear, light blue color.

Iris of Orientalis Type—Possibly *Superba*

The two illustrations show the differences of foliage and stem quite plainly. The siberian, *Distinction*, while not an expensive variety, is not often catalogued, and should be much better known. It is my favorite, and for daintiness and grace of carriage it is outstanding. The color is a combination of blue, bluish-white, and brown veining. The small pointed buds look like tiny snake heads, and are almost as charming as the opened blooms.

These Irises will endure more moisture than the Bearded species, do not like lime, and are harder to transplant. Set the rhizome well into the ground, pack the soil tightly, and keep moist the first season, either with a mulch or frequent watering, and mulch the first Winter to prevent heaving.

EDWARD AUTEN, JR., (Ill.)

The fact that our leading article this month is about "Japanese Art in The Garden," and the fact that I am also making an announcement about Japanese Art Screen Calendars is only accidental,—a mere coincidence in fact.

The so-called screen calendars are worthy of the consideration of anyone and as the amount of money involved in securing them is very modest, it is not likely that the 1,000 calendars available are going to last long. Everybody wants these Japanese Art Screen Calendars for their outstanding attractiveness and unusual features.

The Peony

Review of the 1925 Peony Rating

(9.0 Average or better)

BY T. F. DONAHUE, (In *Bulletin of the Am. Peony Soc.*)

IN CHECKING up all the double herbaceous Peonies voted upon in the 1925 Symposium of the American Peony Society, the writer finds but three varieties advanced to the 9.0 or better class that had been voted upon by the members in the symposium of 1921. These varieties (to be commented upon later in this review) are all of foreign introduction, and this point should be emphasized so that the breeders in this country introducing new varieties will consider such before rating their pet varieties 9.3-9.5, etc., i. e., *White Swan* 6 votes, grade 8.5, 1925; 4 votes, grade 9.1, 1921. No American variety advanced in or into the nine class.

It is the writer's opinion that no Peony should receive a rating in the symposium of the American Peony Society unless it has been grown in the member's garden at least three years and ten voters constitute the minimum. This would eliminate freak ratings, allowing the uninitiated some leeway in selecting only the very finest.

The new varieties to make their initial appearance in the 9.0 column are *Jeannot, Souv. de Louis Bigot* and *Phyllis Kelway.*

Jeannot (Dessert 1918) scored the greatest advance, coming up from an 8.9 average with 9 voting to 9.2 class in 1925 with 18 voting, showing conclusively that with double the voters registering, it won wholly on superlative merits. This variety is without a doubt the par excellence for a late, light lavender pink and white double Peony with salmon tints at the base of petals. This variety is destined to become even higher rated when the show and blooming dates come simultaneously.

Souv. de Louis Bigot (Dessert 1913) the second of the new nines glided nicely to a 9.1 average with 22 voters registering their approval from an average of 8.8 in 1921, 16 voting. It seems rather strange that this variety and *Phyllis Kelway* received the same number of votes in 1921 and 1925 with *Souv. de Louis Bigot* the favorite by .1. This variety has very large blooms of a very distinct shade of rich, salmon pink with silvery lights; extra fine midseason.

Phylliss Kelway (Kelway 1908). Note the year. Why all this time getting into the 9.0 class? It averaged 8.8 with 16 voting in 1921 to 9.0 with 22 voting in 1925, showing decisively that values count eventually. This is a popular variety with the ladies and I am inclined to think they voted it into the 9.0 class. You may compare it to delicate, flushed pink crepe de chine with a freshness of charming effect. Strong, erect stems, fragrant, late, and a good keeper and a popular exhibition favorite.

The writer is pleased to see this trio in the nine class and is looking forward to the next symposium when a few more of his favorites, especially *Kelway's True Queen* 8.8, *Auguste Dessert* 8.7, *Wilton Lockwood* 8.8 and *La Perle* 8.5 will join the ranks of 9.0 or better class where they justly belong.

The reader will notice no gains occurred in the nine class from 1921 to 1925 when the varieties became widely distributed and one receded to the 8.6 class.

Mrs. Edward Harding (1918) 9.3 still leads as his highest rated variety and it deserves this high rank, in spite of all the "lashing" it has received. This variety received the *Mrs. Edward Harding* prize at the Cleveland show in 1918 where it was shown in perfect form, regardless of the heat and transportation, which is a great factor in getting fine blooms to exhibition. The price set at $100.00 did not dim the enthusiasm. The demand became so insistent and the mania to develop rapidly caused the majority of growers to slash same to very small divisions (1 eye, so-called), even splitting the radicle in some cases. The stock became weak and consequently very few representative blooms have appeared on our exhibition tables; nevertheless, with the price receding, I believe it is staging a come-back and look forward to see it on the show bench as of yore. The writer does not recommend one eye divisions at all.

SHAYLOR'S VARIETIES (NINE OR BETTER CLASS ONLY)

		Voting 1925		Voting 1921	
Cornelia Shaylor	(1917)	11 votes,	rate 9.1	4 votes,	rate 9 6
Mary Woodbury Shaylor	(1916)	20 "	" 9 0	18 "	" 9.4
Mrs. Edward Harding	(1918)	22 "	" 9.3	13 "	" 9.9
*Rose Shaylor	(1920)	10 "	" 9.1		
Secretary Fewkes	(1916)	13 "	" 8 6	6 "	" 9.1

*Rated for the first time.

THURLOW'S VARIETIES ARE CLASSED AS FOLLOWS

		1925		1921	
A. P. Saunders	(1919)	12 votes,	rate 8 6	5 votes,	rate 9 1
E. C. Shaw	(1919)	15 "	" 9.1	5 "	" 9 4
James Boyd	(1919)	11 "	" 8 9	6 "	" 9 0
James R. Mann	(1920)	7 "	" 8 7	5 "	" 9 6
*Katherine Havemeyer	(1921)	9 "	" 9.0		
Nymphaea	(1919)	16 "	" 8 8	8 "	" 9 1
President Wilson	(1918)	19 "	" 9.3	7 "	" 9.4
*Sarah K. Thurlow	(1921)	10 "	" 9 1		
Thomas C. Thurlow	(1919)	8 "	" 9.1	4 "	" 9.7

*Rated for the first time.

This last variety polling the highest average takes the leading honors from *Thomas C. Thurlow* which had the highest average in 1921. In the *President Wilson* variety we have one of the finest Peonies in the world, growing in popular esteem which it highly deserves. It is a soft, rose pink, changing to shell pink as flower opens; guard petals sometimes showing crimson markings. Cup-like effect, fragrant, late and opens well. Substantial in every way. As an exhibition variety it is par excellence.

BRAND VARIETIES

While the 1925 symposium shows but one in the nine class (initial appearance), Mr. Brand has four varieties in the 1921 symposium rated as follows:

	Votes	Rate
Martha Bulloch (1907)		9.1
E. B. Browning (1907)		9.2
Longfellow (1907)		9.0
Frances Willard (1907)		9.1
*Mrs. A. M. Brand (1925)	5	9.6

*Rated for the first time.

The last named variety was introduced at the American Peony Society's show held in St. Paul-Minneapolis, 1923, where it received the Society's gold medal. It is a beautiful pure white of immense size on the order of *Kelway's Glorious*. Exquisite in form; the stems are of good length, strong, clean and of a light green color. The writer was so impressed with it at the show that he ordered one without delay.

MISCELLANEOUS

	1925	1921
Grace Loomis (Saunders 1920)	16 votes, rate 9.2	8 votes, rate 9.2
Mrs. C. S. Minot (Minot 1914)	15 " " 9.2	7 " " 9.3

Both are gems of the first water. The writer finds the averages more normal than in 1921. What we need most is fine reds; one with a form of *Le Cygne*. Whites now predominate as the leaders.

Below is a list of the newer varieties rated for the first time which have not been established sufficiently to receive unqualified endorsement in the nine class.

	Votes	Rate
A. M. Slocum (Franklin 1920)	5	9 0
Florence McBeth (Sass 1924)	6	9.2
Frankie Curtis (Vories 1924)	5	9.3
John M. Good (Good & Welsh)	5	9.3
June Day (Franklin 1920)	8	9 0
Mabel L. Franklin (Franklin 1920)	13	9.0
Matilda Lewis (Saunders 1921)	5	9.0
Nancy Dolman (Vories 1924)	6	9.1
Nina Secor (Secor 1922)	14	9.0

Second the motion to discard all on the black list. More to follow.

SINGLES

No nines in the class, sorry to say. *Le Jour* of Shaylor's heads the whites 8.6; *Pride of Langport*, the rose pink, at 8.9; *L'Etincelante* 8.4, an old favorite pink, vigorous grower. *Duchess of Portland*, light pink, 7.8 (should be higher). Add *Marguerite Dessert* 8.5 and you will cover this class all you need.

All the above mentioned varieties are free bloomers, open well, do not blast or waterlog and are vigorous growers; just what a person wants in a garden. There are some *refined* varieties, press-agented at ridiculous prices, but you have got to coddle and pet them in order to get them to do anything. I care not for such.

JAPANESE

Ama-No-Sode	17 votes,	rate 9.2
Fuyajo	22 "	" 9.2
Isani Gidui	16 "	" 9.3
Some Ganoko	15 "	" 9.0
*Tokio	15 "	" 8.9
Tomatbako	16 "	" 9.4
Tora-No-Maki	9 "	" 9.0
White Lady (Kelway)	7 "	" 9.0

*Rated for the first time.

Amateurs will have a representative list if they grow all these nines, adding *Mikado* 8.6 and *Petit Renee* 7.6 for appreciation. *Tokio* is without doubt the finest all-around pink Jap today. As a prolific grower it ranks with *Festiva Maxima*. It may not have the texture of *Tomatbako*, but it more than makes up for that in growth, habit, etc., which we rate, not a "super" bloom, as you see it on the show table. *Tokio* belongs in the 9.0 column if the others do.

The following Peonies which were rated in the 1921 symposium, all grading 9.0 or better added to what are listed above will give you a complete list of varieties grading in the 9.0 or better class. Listed in order of rating. All received twenty or more votes.

Le Cygne	9.9
Kelway's Glorious	9.8
Therese	9.8
Solange	9.7
Mme. Jules Dessert	9.4
Tourangelle	9.4
Festiva Maxima	9.3
Walter Faxon	9.3
E. B. Browning	9.2
La Fee	9.2
M. Jules Dessert	9.2
Philippe Rivoire	9.2
Frances Willard	9.1
Lady Alexandra Duff	9.1
Martha Bulloch	9.1
Baroness Schroeder	9.0
La France	9.0
Longfellow	9.0
Milton Hill	9.0
Raoul Dessert	9.0
Rosa Bonheur	9.0
Sarah Bernhardt	9.0

The above were not voted on in the 1925 symposium as their rating was considered established for the present, at least.

Planting Peonies

"IS THERE an advantage in digging a hole three feet deep when planting Peonies?"

If there were, the majority would not be able to grow them. If the soil is well drained extra drainage is not needed, nor is deep digging. Everybody should know that Peonies will grow and thrive where Corn or Potatoes will, with no more preparation. All may be greatly improved by proper and timely fertilization. If I were using manure I would mix it well with the earth before planting or apply it as mulch on top of ground over Winter, that the heavy rains during Winter and Spring might leach the fertility down where it could be used.

It should be known by every one wishing to grow Peonies, that they will grow equally well in any ground where most vegetables grow, with no different preparation or planting than a Potato. The largest flowers and largest clusters I have ever seen were seven by nine and one-half inches, with clusters of eight to ten blooms on each and every one of the 30 to 35 stems to each clump, growing in solid rows, in Bluegrass sod, where the ground was never pastured nor any fertilizer used, although occasionally cropped since 1840. Timely division is their greatest need.

These were set two feet apart, as carelessly as were Foxgloves and Columbines, with as full confidence of their giving good returns. Where ground is not so good, all should know that Peonies respond as quickly to liberal fertilization, cultivation and irrigation during dry weather, both before and after blooming, as will most other crops. Since but few weeds come in Bluegrass sod, they were easily pulled out, the earth being loosened with the hand fork, close around the buds, soon as up. I preferred ground not be plowed, since that made runways muddy. My daily admiration took the place of both cultivation and fertilization, for surely no one enjoyed Peonies so greatly or has reported more good ones from a total of less 1200 seedlings.

SARAH A. PLEAS, (Calif.)

Peony—*Sarah Bernhardt*

The above photograph shows a prize winning vase of *Sarah Bernhardt* as exhibited by Oakwood Peony Farm at the 7th Annual Flower Show.

Peony—*Sarah Bernhardt* is one of Lemoine's originations and is described as a very large, delicate, shell-pink, and of high quality. It is of semi-rose type and considered one of the best light pink varieties.

Unusual weather conditions still prevail and it seems that the establishing of a Weather Department in THE FLOWER GROWER was undertaken at the right time to create the most interest. Some very interesting articles are in hand for this department, and it looks as though it would become a permanent feature of this magazine, and not by any means the least attractive feature either.

The Gladiolus

Gladiolus Field Notes

Rating Values from Various Standpoints as Obtained by a New Percentage Scale

BY CHAS. E. F. GERSDORFF

(Continued from September issue)

Myrtle McNally (Diener). Rich cream with a few flecks of rosy pink on edges; bases lower petals canary yellow; throat ruby. Form—wide open, heavily ruffled. Soil—clay loam. Season—wet. Planted—May 27. Days to blooming—104.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	20
Size	15	15
Form	5	5
Substance cut	8.5	8.5
Spike:		
Length	5	5
Grace	4	4.5
Florescence:		
Number blooms	4	4
" " open	5	5
Placement	3	4.5
Foliage	4	3
Vigor	5	5
Disease resistance	5	5
Productiveness	3	3
Unusual quality:		
Color, size, form	4	4
Totals	90.5	91.5
Ratings	91	92

Mystery (Tracy). Claret red shading to reddish purple on edges, deeper to base outside; throat lighter; extreme bases of lower petals white and blotched deep blood red on a central feather or splash of mauve; pistil violet pink; anthers cream shaded pale lilac. Buds deep red purple. Form—wide triangular. Soil—light loam. Season—wet. Planted—May 15. Days to blooming—100.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	
Size	10	
Form	5	
Substance cut	10	
Spike:		
Length	3.5	
Grace	5	
Florescence:		
Number blooms	4	
" " open	4	
Placement	4	
Foliage	4	
Vigor	4	
Disease resistance	5	
Productiveness	4	
Unusual quality:		
Color, substance, bloom from small corms	4	
Total	86.5	
Rating	87	

Nathalie Bourseul (Gravereau).† Rose overlaid with slate; white spot in throat. Form—wide open. Soil—light loam. Season—wet. Planted—May 1. Days to blooming—97.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	
Size	14.5	
Form	5	
Substance cut	8.5	
Spike:		
Length	4	
Grace	4	
Florescence:		
Number blooms	4	
" " open	4	
Placement	4	
Foliage	4	
Vigor	5	
Disease resistance	5	
Productiveness	4	
Unusual quality:		
Color	3	
Total	89.0	
Rating	89	

Nautilus (Coleman). Clear light shell pink. Form—wide open. Soil—light loam. Season—very dry. Planted—May 29. Days to blooming—92.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	20
Size	13	14
Form	5	5
Substance cut	10	10
Spike:		
Length	4	5
Grace	4	4.5
Florescence:		
Number blooms	4	4
" " open	5	5
Placement	4.5	5
Foliage	4.5	4.5
Vigor	5	5
Disease resistance	5	5
Productiveness	3	2
Unusual quality:		
Color, substance	4	4
Totals	91.0	93.0
Ratings	91	93

Navajo (Breck-Robinson Co.). Bright vermilion scarlet with crimson blotches on lower petals. Form—wide open. Soil—clay loam. Season—wet. Planted—May 16. Days to blooming—89.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	
Size	13.5	
Form	5	
Substance cut	8.5	
Spike:		
Length	3.5	
Grace	4.5	
Florescence:		
Number blooms	4	
" " open	4	
Placement	4	
Foliage	4	
Vigor	4	
Disease resistance	5	
Productiveness	3.5	
Unusual quality:		
Color	2	
Total	85.5	
Rating	86	

Nebraska (Vos.) Color (Ridgway). Pansy Violet; bases of lower petals lighter, blotched Maroon; pistil Mallow Purple; anthers Blackish Violet. Form—wide round. Soil—gravelly loam. Season—wet. Planted—June 18. Days to blooming—75.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	20
Size	10	12
Form	5	5
Substance cut	8	8
Spike:		
Length	5	5
Grace	4	4
Florescence:		
Number blooms	5	5
" " open	4	4
Placement	4	4
Foliage	5	5
Vigor	5	5
Disease resistance	5	5
Productiveness	3	2
Unusual quality:		
Color, foliage	4	4
Totals	87.0	88.0
Ratings	87	88

Nectarine (Diener). Color (Ridgway). Peach Red flamed and blended with Deep Scarlet; bases of lower petals Pale Lemon Yellow blotched Garnet Brown; pistil Scarlet Red; anthers Negrosin Violet. Form—wide triangular. Soil—gravelly loam. Season—wet. Planted—June 17. Days to blooming—90.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	12
Size	13.5	13.5
Form	5	5
Substance cut	8	8
Spike:		
Length	4	4
Grace	5	3
Florescence:		
Number blooms	5	5
" " open	4	4
Placement	4.5	5
Foliage	4	3
Vigor	5	5
Disease resistance	4	4
Productiveness	5	5
Unusual quality:		
Number of blooms, branching, productiveness	5	
Number of blooms, productiveness		4
Totals	92.0	80.5
Ratings	92	81

Negerfurst (Pfitzer). Very dark velvety red thickly overlaid on outside and edges with five stripes of black red; velvety; small white throat; lower petals blotched white on lower half of petals, striped finely with maroon. Form—wide triangular. Soil—clay loam. Season—dry. Planted—May 5. Days to blooming—86. Season—wet. Planted—May 15 and 28. Days to blooming—89 and 91 (small corms) and 79 (large corms).

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	20	20
Size	14	14.5
Form	5	5
Substance cut	10	10
Spike:		
Length	4	4.5
Grace	5	5
Florescence:		
Number blooms	4	4
" " open	4	5
Placement	4	5
Foliage	5	5
Vigor	5	5
Disease resistance	5	5
Productiveness	4	3
Unusual quality:		
Color, substance	3	
Color, substance, bloom from small corms		4
Totals	92.0	95.0
Ratings	92	95

New America (Crawford). Bright rose pink streaked darker; sulphur yellow throat with brilliant red markings. Form—wide triangular. Soil—clay loam. Season—wet. Planted—May 1 Days to blooming—101.

RATING

	VALUES PER CENT Exhibition	Commercial
Flower:		
Color	14	
Size	9	
Form	5	
Substance cut	6	
Spike:		
Length	3	
Grace	3	
Florescence:		
Number blooms	5	
" " open	3	
Placement	3	
Foliage	4	
Vigor	4	
Disease resistance	5	
Productiveness	2	

Unusual quality	0
Total	66.0
Rating	66

Newport (Childs). Salmon rose blending to dull rose on edges, lighter toward throat; medial lines pinkish white; bases of lower petals cream white to throat. Form—wide triangular, tips reflexing. Soil—light loam. Season—wet. Planted—May 17. Days to blooming—90.

RATING

Flower:	Exhibition	Commercial
Color	20	
Size	13.5	
Form	5	
Substance cut	9	
Spike:		
Length	4	
Grace	5	
Florescence:		
Number blooms	5	
" " open	5	
Placement	5	
Foliage	3	
Vigor	5	
Disease resistance	5	
Productiveness	3	
Unusual quality:		
Color, form, grace	4	
Total	91.5	
Rating	92	

Nezinscott (Childs).* Brilliant scarlet vermilion, bases of lower petals white to throat with dash and stippling of blackish crimson bordering on purple. Form—wide triangular. Soil—clay loam. Season—average. Planted—April 28. Days to blooming—79.

RATING

Flower:	Exhibition	Commercial
Color	17	15
Size	8	8
Form	5	5
Substance cut	5.5	5.5
Spike:		
Length	2	1
Grace	2	2
Florescence:		
Number blooms	3	3
" " open	3	3
Placement	2	3
Foliage	5	5
Vigor	2	2
Disease resistance	5	5
Productiveness	2	2
Unusual quality	0	0
Totals	61.5	59 5
Ratings	62	60

Niagara (Banning). Creamy yellow, blending to pink in center of petals on outside, outside of tube salmon red; inside of bloom creamy yellow, blending to a deeper soft yellow on bases of lower petals; bases and throat striped and stippled finely with light crimson; pistil pink; anthers purple. Form—wide triangular. Soil—clay loam. Season—average. Planted—May 18. Days to blooming—81 to 84.

RATING

Flower:	Exhibition	Commercial
Color	20	20
Size	12	13
Form	5	5
Substance cut	10	10
Spike:		
Length	3	3 5
Grace	3	5
Florescence:		
Number blooms	5	5
" " open	4	5
Placement	3	5
Foliage	4	4
Vigor	4	4
Disease resistance	5	5
Productiveness	5	5
Unusual quality:		
Substance, productiveness	3	
Substance, placement, productiveness		4
Totals	86.0	93.5
Ratings	86	94

Nidrac (Metzner). Color (Ridgway) Velvety Scarlet Red Blended Garnet Brown; bases of lower petals lighter to White blotched Garnet Brown; pistil Lilac; anthers Dark Violet. Form—wide Amaryllis. Soil—sandy loam. Season—wet. Planted—June 18. Days to blooming—69.

RATING

Flower:	Exhibition	Commercial
Color	20	20
Size	11	11.5
Form	5	5
Substance cut	8.5	8.5
Spike:		
Length	4.5	4 5
Grace	4	4
Florescence:		
Number blooms	4	4
" " open	3	3.5
Placement	4	3
Foliage	5	3
Vigor	4.5	4.5
Disease resistance	5	5
Productiveness	3	2
Unusual quality:		
Color	2	
Color, number of spikes, carliness		4
Totals	83 5	82 5
Ratings	84	83

Night Wings (Coleman). Rich salmon-scarlet with a few blending splashes of a darker hue; lower petals blotched brilliant scarlet blending to salmon red in throat; white medial lines; throat white stippled and lined salmon-red; whole bloom with a glistening golden overlay; pistil salmon; anthers salmon to violet. Form—wide Amaryllis. Soil—light loam. Season—very dry. Planted—May 30. Days to blooming—77.

RATING

Flower:	Exhibition	Commercial
Color	20	20
Size	13.5	14 5
Form	5	5
Substance cut	10	10
Spike:		
Length	3	5
Grace	4	5
Florescence:		
Number blooms	4 5	5
" " open	5	5
Placement	4	5
Foliage	5	4
Vigor	5	5
Disease resistance	5	5
Productiveness	5	5
Unusual quality:		
Color, form, substance	4	
Color, substance		3
Totals	93 0	96.5
Ratings	93	97

Nineteen-Ten Rose (Kunderd). Deep rich rose, shading lighter towards throat; outside of petals darker; slightly darker rose blotches on lower petals; all petals with white medial lines. Form—wide round, with reflexing tips. Soil—light loam. Season—wet. Planted—May 22. Days to blooming—70.

RATING

Flower:	Exhib'n	Com'l	Landscape
Color	20	20	20
Size	8	10	12
Form	5	5	5
Substance cut	10	10	
Substance on plant			10
Spike:			
Length	3	4	5
Grace	4	5	5
Florescence:			
Number blooms	3	4	4
" " open	5	3	5
Placement	3	5	5
Foliage	4	3	3
Vigor	4	4	4
Disease resistance	5	5	5
Productiveness	5	5	5
Unusual quality:			
Color, substance	3		
Color, substance, earliness		4	5
Totals	82.0	87.0	93.0
Ratings	82	87	93

Nora (Velthuys).† Light violet blue, lower petals and throat with small spots of a deeper hue. Form—wide open. Soil—light loam. Season—very dry. Planted—May 30. Days to blooming—91.

RATING

Flower:	Exhibition	Commercial
Color	20	20
Size	12	12 5
Form	5	5
Substance cut	9	9
Spike:		
Length	3 5	
Grace	4	4
Florescence:		5
Number blooms	4	
" " open	4	4 5
Placement	4	4
Foliage	5	5
Vigor	4	5
Disease resistance	5	4
Productiveness	3	5
Unusual quality:		3
Color, size of cormels	5	
Totals	87.5	91.0
Ratings	88	91

Norma Dee Childs (Childs). White with faint pencilings of rose, blending to sulphur yellow in the throat. Form—wide open, loosely arranged petals. Soil—clay loam. Season—average. Planted—May 1. Days to blooming—91.

RATING

Flower:	Exhibition	Commercial
Color	19	
Size	14	
Form	4	
Substance cut	7	
Spike:		
Length	3	
Grace	3	
Florescence:		
Number blooms	5	
" " open	3	
Placement	3	
Foliage	3	
Vigor	2	
Disease resistance	5	
Productiveness	3	
Unusual quality	0	
Total	74.0	
Rating	74	

Norman (Brown). Color (Ridgway). Orient Pink blending to edges of Mallow Pink; bases of lower petals Orange Pink, feather blotched Amaranth Purple; pistil La France Pink; anthers Violet Blue. Form—wide Amaryllis, ruffled. Soil—sandy loam. Season—wet. Planted—June 17. Days to blooming—73.

RATING

Flower:	Exhibition	Commercial
Color	17	17
Size	12	13
Form	5	5
Substance cut	5	5
Spike:		
Length	3	3
Grace	4	3
Florescence:		
Number blooms	4	4
" " open	4	4
Placement	3	4
Foliage	3 5	3 5
Vigor	4	4
Disease resistance	5	5
Productiveness	2 5	2
Unusual quality:		
Earliness	1	1
Totals	73 0	73.5
Ratings	73	74

Nymph (Kunderd). Light lavender pink with creamy yellow throat. Form—wide open, ruffled. Soil—light loam. Season—wet. Planted—May 7. Days to blooming—88. A ruffled *Mary Fennell*.

RATING

Flower:	Exhibition	Commercial
Color	20	20
Size	14	14.5
Form	5	5
Substance cut	10	10
Spike:		
Length	3 5	4
Grace	5	5
Florescence:		
Number blooms	4 5	5
" " open	4	5
Placement	5	5
Foliage	4	3
Vigor	4	4
Disease resistance	5	5
Productiveness	4	3
Unusual quality:		
Color, form, substance	4	3
Totals	92.0	91.5
Ratings	92	92

(*Continued in November issue*)

Hardiness of the Gladiolus

BY FORMAN T. McLEAN

WINTER-HARDY Gladiolus are an old topic. Garden enthusiasts grew them around the outskirts of Boston more than a half century ago. But Editor Cooper is right in his contention in THE FLOWER GROWER for September;—our garden Gladiolus varieties are *not* hardy. Do the two statements above seem contradictory? That is simply because the hardy Gladiolus have practically died out of cultivation and have been replaced by the handsomer tender sorts. The natural range of the wild species of Gladiolus is so wide that it includes not only tropical and subtropical Africa, but parts of Europe and some decidedly cool mountains of South Africa. So it is scarcely surprising that we should find relatively hardy as well as tender species among them.

Most of the ancestors of our present day garden varieties were tender sorts from the lowlands of Natal and of Cape Colony. But the purple-spotted Gladiolus, G. purpureo-auratus, and the Saunder's Gladiolus, G. Saundersi, both wintered out easily in the suburbs of Boston, as reported by Endicott; and the latter became naturalized in his meadow. The hybrids from these, crossed with the tender species and garden hybrids, were selected for size and beauty rather than winter hardiness; so the first of Lemoine's Nanceanus and Lemoinei introductions were hardier than their present day descendants. Probably all of our common garden sorts are tender, though they oftentimes winter over during mild Winters, or in specially protected situations.

The Nanus tribe of Baby Gladiolus, which require autumn planting, and may be flowered in greenhouses or coldframes in early Spring are likewise tender; for they likewise are derived from tender species from the Cape of Good Hope. But the red Colvillei is hardier. Both of its ancestors, the Superb Gladiolus, G. cardinalis, and the Avondblom, G. tristis, are relatively hardy, and are easily wintered outdoors along the New England coast.

THIS brings us to the question: Just what Gladiolus are hardy, and how hardy are they? To be quite specific, the writer has wintered a few of the species outdoors under a light mulch of leaves for the past three Winters here in Rhode Island. Tenderer sorts planted out with them for comparison were quite regularly killed. The past Winter, seven kinds wintered and two were killed.

The seven successful ones included the Avondblom and G. Colvillei of the South African strain of Gladiolus; and G. communis, G. byzantinus, G. segetum, G. atroviolaceus, G. imbricatus. Of these, Atroviolaceus put forth its slender violet purple blooms on June 10. These were followed by the Avondblom, then Byzantinus with its showy royal purple spikes of bright flowers. The last of the "hardy" ones to bloom was a pink-flowered Cardinal hybrid which I have been calling *Ramosus* for want of a more definite name. It finished blooming after the first of my spring planted varieties had begun to blossom, in late July. The casualties last Winter, planted in the same bed and at the same depth, were G. cuspidatus, which failed to survive at all, and G. recurvus, which died soon after sprouting in Spring.

None of these relatively hardy sorts are as tall or handsome as even the more modest of the summer-flowering sorts. Most of them are low growing and small flowered. They have a graceful beauty of their own, but are entirely distinct from the garden Gladiolus.* Their slender stalks and star-shaped or narrowly bell-shaped little blooms are excellent for low bowls and light, airy decorations of all kinds. They also serve well in the garden as border plants. Some of them may also be intercrossed with the larger garden sorts, and so may serve as the foundation of a hardy or at least of a hardier, large-flowered race.

True, G. byzantinus, which is reported to have wintered outdoors for a number of years in Ontario, Canada, (though it is not regarded as the hardiest of Glads, by any means), does not cross readily with the races of South African extraction. But some of the others, equally hardy, are easily intercrossed.

From the above statements, I trust that nobody will go away with the impression that any of the Gladiolus are really very hardy. Their natural range does not extend beyond Southern Germany, and they are not in the same class with the hardy Tulips, Narcissus or Crocus. The hardier of them can be wintered outdoors during an average Winter in the Northern States, with the protection of a good mulch over the bed. The main idea is that there is great variation in the hardiness of the different races of Gladiolus. The usual garden strains are quite uniformly tender; some of the primitive races and wild species are much hardier, and some of these have promise as progenitors of a hardier garden race.

*These hardier of the Gladiolus and the Nanus tribes, as well as the more familiar garden strains, their habits and origin, are discussed more fully in The Gladiolus Book, Doubleday, Page & Co., now in press.

Depth for Planting Gladiolus

FOR several years the Modesto Junior College of California has been conducting many experiments in plant culture. Some phases of the work may not be applicable to all portions of the United States but there is no question but what many of the results obtained may be duplicated in other sections.

The depth of planting proved to be very interesting. Very seldom can we get very many of the Glad hobby growers to agree to the best depth of planting. For two years a number of Gladiolus were planted to the depth of 2-3, 4-5, and 6 inches deep. The planting was made the end of February.

The four-inch planting was the first to show above the ground; this was due no doubt to the fact that the shallower planting was held in check by the cool nights and the changing temperature of the soil at that depth. The five and six-inch planting was the last to come through the soil, and the plants from the six-inch planting were weak and did not develop into sturdy plants; neither did they bear large spikes of bloom.

The heat during the day seemed to wilt the shallow planted flowers much more severely than those planted at a greater depth. Of course we must keep in mind the fact that there was a difference of almost two weeks in the time of flowering between the deep and the shallow planted corms. Temperature records however, showed that the average temperature was about the same during the entire flowering period.

From notes taken at the time of flowering, and comments from visitors that were asked to pass their opinion on certain rows of flowers, invariably were taken as their choice the three to four-inch planting; the three-inch perhaps the better of the two.

Realizing the intense heat of the soil and wishing to study the affects of mulching, it was found that the mulched plants planted at two inches produced an unusually large crop of cormels, and succeeding experiments along the same line verified the previous years' results. The six-inch planting on the other hand bore very few cormels.

The thought occurred to us then; "Does cormel yield depend entirely upon the depth of planting?" We worked on that for some time and the results of this finding we may give at a later date when we have checked over all the results. At that time we may also have some data to offer to settle the argument that THE FLOWER GROWER started last year relative to the extremes of cutting the flower stalks.

F. KNORR, (Calif.)

Digging Bulblet-grown Gladiolus Bulbs in Oregon

I have read with considerable interest your answer to an Oregon Glad Fan in the August issue, in regard to digging bulblet stock first. Your answer that it should be dug in late August or early September no doubt fits your Eastern conditions but I hardly believe there is an Oregon grower that ever digs his bulblet stock this early. We get our best growth on bulblet stock during the months of August and September and as we do not have to fear freezing weather most of this stock is never touched till middle or late October. Last season I had a good portion of the thriftier bulblet stock bloom in September and October and dug a good many number one bulbs from them. I think you will find that other Oregon growers will confirm me as to these statements.

L. E. WEEKS

Editor's Note:

Right you are, Brother Weeks, that it is probably better to let bulblet-grown stock stay in the ground as long as possible, when they remain green and growing; but I really cannot see that your conditions on the average would warrant you in delaying the digging of such stock until the middle or last of October. The wonderful digging season you experienced last year is not likely to be repeated again this year.

The advice given on page 374 of the August issue is doubtless good for most any section of the country where the ground freezes rather deeply; and any commercial grower with a considerable amount of stock to dig would do well to look up that advice and profit by it.

Will those who start digging their bulblet-grown stock early, whether located in the West or in the East, tell us some of their experiences?

Depth of Planting Gladiolus in Oklahoma

Two rows of Glads, 18 in. and 36 in. from foundation, west side brick wall, planted June 1, 1926, 4-5 in. deep. Up quick and grew fast. Plenty of moisture; very hot sun from midday till night. When one foot high four died down but bulbs seem sound still. Others began to turn brown on tips and edges of leaves in July; last of July nearly one-half of each leaf thus affected. Early sorts throwing up flower stalks.

Sorts: *Alice Tiplady, Carmen Sylva, Crimson Glow, Dorothy McKibbin, Jack London, Le Marechal Foch,* and a mixed lot all about the same condition.

July 26: Visited one of our nursery gardens and found all the Glads in the open ground, full sun, all in very bad condition, most of them dead in like manner. Same day noticed some Glads in full bloom and looking well among shrubbery north side of houses subject to almost continuous shade and moisture. Last Summer my same varieties were fine, in open ground, with full, fierce sun, planted 4-5 in. deep, puddled with water twice a day and hoed to keep earth from sogginess. Blooms cut early, and with full stem. Bulbs dug as soon as dying, but not till frost in last of October. Found very many bulblets, especially on *Alice Tiplady.* These are all growing well now and not blighting yet.

Query: (Of small value perhaps) Is blight here due to hot soil? If so, will deep planting assist prevention? If planted shallow and kept wet will not the hot moisture rot the plants? If not kept wet will they not burn out? My tentative answer is, yes, to all the questions.

My experience says for this locality, deep planting, open, rich, well-drained, mellow soil, partial shade on the ground from low shrubs and plenty of moisture at all times. However, sunshine is necessary; and air.

I do not think mulching is good for Gladiolus; and any kind of approach to gumminess of soil, mouldiness, or soggy air-tightness, I think should be avoided; hence frequent stirring of the soil is good. In this climate early planting is more likely to produce bloom than late, on account of dry, hot Summers.

GEO. W. BORDEN, (Okla.)

Wintering Gladiolus Bulbs

Many inquiries have been made as to storing Gladiolus bulbs. Perhaps the experiences of an amateur grower will help.

The Fall of 1925 was very wet and when I dug my Glads I topped them and spread on threshing floor to dry.

When they were thoroughly dry, I sorted, divided, etc., and my named ones I placed in separate boxes. The mixed bulbs were also put in boxes, but none over 1½ to 2 inches thick. These boxes I set on top of the Potatoes in the bins in the cave.

During the Winter I often stirred them and watched for mould or rot, and I only lost three bulbs.

I may add that our cave has a ventilator from the storage room above to afford proper ventilation in cave.

MRS. L. L. LITTLEFIELD, (Md.)

Gladiolus—*Baron Joseph Hulot* and *Heliotrope*

Baron Hulot? For at least a dozen years Dreer has catalogued a Gladiolus under the name of *Heliotrope,* by the side of which the *Baron* looks hardly equal to a penny with a hole in it, yet I have never seen it listed elsewhere, nor reference to it anywhere. Is it of the same color as the *Baron?* Not exactly, but vastly more so. Why it should not have come to public favor I do not know, unless perhaps it is slow to propagate. It is of about same size and style, if I remember rightly.

B. C. AUTEN, (Mo.)

Editor's Note:—

Brother Auten is right that *Baron Joseph Hulot* is similar in color to *Heliotrope,* but there the similarity ends. I have grown *Heliotrope* for some years and *Hulot* for a few years longer. *Hulot* is a fair propagator, fairly rugged in growth and what might be called dependable. *Heliotrope* is weak in growth, a poor propagator and good only occasionally. This explains why it has never come into general favor and why it has never been catalogued.

Glads Lose Color

Yes, Glads *will* lose their color. I had a pale pink with a rich red throat splash, and it changed to only a few small dull-red streaks. I planted its bulblets, hoping they would come true; they didn't. I let all go; regretted later I had not kept them.

Had Kunderd's *Seneca,* "straw color, wine red spots." The spots changed to lavender, and lavender suffused the whole flower.

Then, I read quite a lengthy treatise on fertilizers, in THE FLOWER GROWER. Hen droppings are largely rich in nitrogen, "which improves no color except green." I had been top-dressing my beds with this; my friends praised my "thrifty looking plants,"—so I discontinued that practice; allowed *none* put on ground anywhere near my Glads. *Seneca* came back to normal, and some others that had become a bit faded-out-looking are all right again.

IVA REED, (N.Y.)

Storing Gladiolus Bulblets

The Fall of 1925 was very wet at the time I dug and topped my Gladioli and spread on the threshing floor.

I cleaned and divided my bulbs when they were thoroughly dry.

The bulblets I mixed, and after the bulbs had all been removed, I took out as much dirt as I could, but lack of time and strength prevented my doing more.

I poured the bulblets and dirt all in a bushel lard kit, and set in the cellar.

Several times during the Winter I poured them from one kit to another to air and mix.

These came out in perfect condition. Many of them had started tiny shoots, and on most all the outer skin was bursted, and they came up as soon as my large bulbs.

Those I disposed of, I sorted out of the dirt, but what I planted myself I drilled the dirt and bulblets into a four-inch deep furrow and covered.

Bulblets thus stored do not require soaking before being planted.

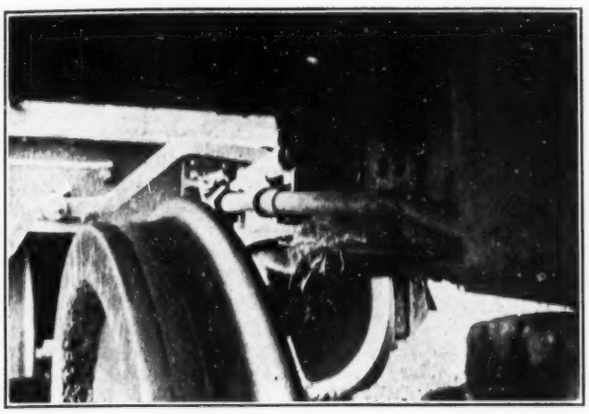
MRS. L. L. LITTLEFIELD, (Md.)

Our Birds

An Unusual Robin Home

BY SIDNEY K. EASTWOOD

THE coming of man and the works of civilization that he builds in many cases drive out our wild life and at times cause most of it to become extinct in various localities. But we find in nature many creatures that adapt themselves wonderfully to the new order of things. Among the birds, the Robin not only accepts things as they have come to be but often uses man-made structures for its own ends. Often we find the nest near to our doorways. It is not unusual to see one on top of a pillar of a porch, at the turn of a rain spout or on a sheltered ledge up near the eaves.



Robin's nest under R. R. car

Recently, when walking along a lane at the outskirts of a little country town with a small girl for a companion, I came to a small, two-story frame house that some time before had been a victim of a fire that had destroyed most of the roof. The bright eyes of the child discovered, on a cross timber under a charred rafter, one of these nests. In it were several young birds and perched nearby on the beam sat a parent bird. As we watched, the other parent arrived with food for the young birds.

Late, in May, I visited one of our glacial swamps in northern Pennsylvania. Through the center of it, for some ten or twelve miles, a trunk line railroad crosses on a slag fill. At one point, there is a siding in the swamp which held about a dozen empty steel coal cars. Walking along the fill at the edge of the track in the early morning I was surprised to see a Robin fly out from beneath a car directly in front of me. Wondering what sort of food a Robin could find on a slag fill under a string of coal cars, I stopped to investigate. Instead of a feeding ground, I discovered a Robin home built on the car itself. This Robin had appropriated this mass of iron and steel as a shelter for its brood. There, at one end of the center longitudinal beam, it had constructed its dried grass and clay nest. This beam afforded a shelf-like support behind a pipe for the air brake which nearly concealed the nest. The wheel of the car also aided in hiding the nest from prying eyes.

Had the bird remained quietly on the nest, it probably would never have been discovered. The cars must have been there for some time as the nest contained four young birds that had not been out of the shell more than a day or two. Inquiry of the telegraph operator at the tower about half a mile from the siding developed that these cars had been undisturbed for about six weeks.

Here, not thirty feet from the main line where heavy ore trains thunder by night and day, our Robin had appropriated for its own use a man-made structure with fearlessness; and oblivious of a possible journey that its family might take should man suddenly put the cars back into the service for which they were built.

Cooperation Among the Birds

WHATEVER some persons may think to the contrary, human beings are not the only ones who believe in and practice cooperation. This fact was very plainly evidenced in a remarkable way by some Bird neighbors who made their homes here one Spring.

An Ash tree, a Plum tree, and a post were so situated as to form an acute triangle. A large Gourd with a small hole cut in one side was hung in the Plum tree for a Bird house and in a few days it became the home of a pair of Bluebirds. A pair of Mocking Birds claimed a limb in the Ash tree, and the remaining facts could not have been told in this little article if someone had not left a large dipper Gourd with the bowl turned over the top of the post, and when she returned for it a few days later the Bluebirds and Mocking Birds darted at her, scolding as though their nests were being disturbed. As she lifted the dipper a little Brown Wren flew out. Her nest had been built in the dipper handle, so the dipper was carefully replaced and the Wren again claimed her nest.

We decided to watch the progress of the three families, and until they were fully assured that we were friends instead of foes, all three families united in guarding whatever nest we approached; and should we call when neither Bird was at home, the Birds from the other two nests came to the rescue, leaving their nests to protect that of their absent friends.

They soon learned to trust us, even to such an extent that Mrs. Bluebird did not leave her nest when we stopped to look in and Mr. and Mrs. Wren allowed us to lift the Gourd from the post and look at the cosy little home inside.

But let pussy or the dog come near a nest and all three families flew to the rescue,—efforts and voices all united to drive away the intruder and this continued until the nests were empty. Surely we can find no better example of real neighborliness and cooperation, than shown in this glimpse into Birdland.

MISS RUTH JACOBS, (Ind.)

Young Humming Birds

I WAS convalescing in a nice, easy chair at the "Lookout" (Dutch door in kitchen) one day in the last week of July, eager to see and know what was doing in the world of fur and feathers.

Very soon there came darting toward me, two of the most amusing of feathered folks—young Humming Birds.

They had been making spasmodic attacks upon the Monarda border, with their Mother in attendance, and had whirled away, when, for a moment she was out of sight.

If you have not beheld young Hummers, not long out of the nest, you have missed much.

On they came, jerkily, with their queer little squeaks. At last one clutched a small, dead branch of the big Elm Tree that is but a few feet from the "Lookout." Then the other clutched at and gained, a perch near, and, paying no attention to me, they began to complain of their hard lot. "Oh dear! I'm *so* tired!" I seemed to

hear one say;—"Yes: So am I! But Mother just will not believe it!"

"It's hard work to fly and keep looking for food all the time!"

"Just so! but all the same I'd rather do it than have Dad ram it into me,—he wasn't any too gentle!"

"Hark! I hear Mother! What if she catches us? You know she said, 'Just a good Monarda supper, then home to bed!' You go this way—I'll go that way—and, if she catches one of us—why I'll say I'm hunting for you—and you say you're hunting for me."

"Scoot!" and they darted off, just as Mother Hummer appeared, took in the situation and gave chase.

They took a few sips and flew into a Plum tree to rest. She allowed them a breathing spell then rounded them up once more.

And so it goes all day,—except that Father Hummer takes his turn while Mother goes off for a rest. I never see all four at once.

M. T. T., (Minn.)

My Birds Bring Compensation

WE ARE told that the law of compensation is reliable,—and I am inclined by reason of an experience of my own to think it may be. Of course one can't always see it without a spy-glass; but if one looks long and hard for something to offset a misfortune, I fancy it nearly always can be discovered. I was fortunate in not having to strain my eyes, or even to think about it. It simply appeared and I gave thanks.

The first week in June was a busy one in Little Patch o' Paradise. Home sites were being chosen by many feathered couples. John and Jane Wren had many mouths to fill; Kate and Duplicate, the Catbirds, had a nest full of beautiful eggs; Lover and Ditto (Mourning Doves) were building a second nest, the first one having been destroyed by some enemy; Melody and Harmony, the Wood Thrushes, made me rejoice. Buster Brown Thrasher's wife had a nest which I had not located; but Buster himself spent his nights in an evergreen close to my chamber window.

Many more there were, and life was most interesting, when I had an encounter with influenza, and it looked as though I might easily come out second best! Aside from the unromantic (and uncomfortable) features of my foe, I was in despair at being driven from my Patch o' Paradise and its occupants. I was given no choice, however, and yielded to the inevitable with a total lack of grace.

For a few days I was submerged in a lake,—no! a *ditch* of pain and discomfort. But one morning I was wakened at about 4:30, and wondered why I felt my sufferings so little. The answer soon came: Melody was singing, opposite my window,—not close, but at just the right distance to insure perfect music. Soon there were other voices. My beloved Tireless, the Song Sparrow; Duplicate, the Catbird, and Buster Brown Thrasher; while soft, far-away notes by Big Bill (Grosbeak); an occasional "I'm Peter, Peter, Peter!" from the Oriole; a pathetic "Dearie! Oh, Dearie!" by Sky-Blue Bird; and the oft-repeated refrain of John Wren, were identified.

When I began to sit up, I could see from my bed, at sundown, the more or less quiet retiring of several of my best friends. A family of Robins was decidedly less retiring. The poor parents tried so hard to keep them quiet, that they might not give their enemies a clue to their sleeping place!

So, morning and night, and occasionally through the day, my little helpers have made their appearance or broadcasted their music to aid the afflicted, and I have no hesitation in saying that they helped more than did the doctor. Many a time, when downed by pain or nausea, have I listened so intently to identify a Bird note faintly heard, that the unpleasantness has passed.

I can recommend this treatment. It can harm no one, and I *know* it can do good; but, first, you must collect and make friends with your musicians. I've been at it for nearly thirty years; but it is worth it!

MARY TOWER TAYLOR, (Minn.)

Small Birds Carried by Larger Ones on Migratory Flights

One of my Canadian readers has sent me a clipping from *The Montreal Family Herald*, of an article by Ernest Ingersoll, author of the book, "Birds in Legend, Fable and Folklore." This clipping throws light on the subject, as above, and as touched upon in several past issues of this magazine, and I am pleased to reprint it entire as follows:

"In my book, "Birds in Legend, Fable and Folklore," I gave a chapter to the question whether small Birds are ever carried by large ones, such as Cranes or Geese, and so helped on their long migratory flights. I collected and analyzed much evidence, some contributed by Canadian observers, past and present; and the weight of it seemed to favor the belief that such carriage frequently occurred, and continued for long distances, but could hardly be considered a regular practice. Lately I have found an interesting reference to the matter in Nelson's "Birds of Yorkshire," as follows:

"'A very remarkable incident occurred near Redcar some years ago, the facts of which were communicated to me at the time by the late J. Wilson, contractor for the work of constructing the Tees Breakwater. He was at the end of the 'gare' on the morning of October 16, 1881, when he saw a short-eared Owl 'flopping' across the sea and noticed as it drew near, that there was some small object between its shoulders; it alighted on the breakwater close to where he was standing and immediately a little Bird flew off its back; one of his men and he followed it up and caught it, when it was found to be a Gold-crest, as I had ocular proof.'

"Mr. Nelson also quotes a ship captain's statement that he saw a flock of Birds crossing from Europe to Africa 'accompanied by small Birds which frequently settled on the backs of the large ones and, with the aid of the marine glasses, could easily be distinguished nestling between the shoulders of those on the wing. Occasionally the small Birds would start up from their resting places and stretch their wings for a short distance.'

"This is not a very important matter, but it is interesting; and now that the migration season is at hand it would be well to keep a sharp watch for any further evidence that is at all noticeable here. It is most likely to be observed, if at all, in the western plains region."

Caterpillars and Wasps

MR. JENCKE'S story of his black Ant makes me think of something.

At one place where I had my garden for several years, every Fall, just before Winter, numerous Caterpillars, not collections, but lonesome strays, would come along, every Caterpillar going as if his life depended on his getting somewhere, or away from somewhere, in the shortest possible time. To disturbance they paid no attention, but struggled with desperation to go on forward, and always to the north. Why to the north, whether in the nature of things, or to reach some local spot to the north, or to escape one to the south, I never knew.

Another interesting animal in the Fall is the big black ground Wasp. I once saw one kicking fine fresh dirt backward into a pile, its legs going as much faster than a dog's as the insect is smaller. A little later I saw a pile of such fresh dirt, and by it a hole, and near by an enormous Grasshopper, apparently dead. Pretty soon a Wasp bobbed up out of the hole, dropped a load of dirt on the pile, inspected the Grasshopper, and then went below for more dirt, or rather, to enlarge the cavity underground.

Wishing to hasten proceedings, I took a stick and pushed the Grasshopper across the hole. Up bobbed the Wasp, butting the Grasshopper off the hole, and looking all around for the cause of the disturbance. Then it brought up a few more loads of dirt, then inspected the Grasshopper again. Next it got astride the Grasshopper, grasped it by one of its antennae, and dragged it around a circuit so as to bring it headfirst straight up to the hole. Then Mrs. Wasp backed into the hole, seized the Hopper again by an antenna, and dragged it completely out of sight into the hole.

The rest of the performance I did not see, but presumably an egg was laid on the unconscious body of the Grasshopper, and the Wasp came out and kicked the pile of dirt across the hole to hide it and to keep the weather out.

BENJAMIN C. AUTEN, (Mo.)

The Utica Garden Club

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Editorial Notes

FOR the first time since Wrens have been nesting in our garden, which is at least eight years, we have seen the babes start out from the nest into the world. They usually slip away at dawn before the most of humans are abroad. The first brood succeeded in doing so, but the weather man played a trick on the second family which delayed their departure until after eight o'clock. Some accident must have happened to Jimmie and poor little widowed Jennie was left to support five children without even a widow's pension to aid her. As the diet consisted entirely of "bugs," human hands were powerless. The brave little lady hunted from dawn to dark without a murmur and brought up five lusty youngsters.

We were determined if possible to see them learn to fly. Judging from their voices that they were about old enough to leave the nest, we set the alarm each night to ring at five in the morning. For three days nothing happened. The only thing to be seen was the little mother hurrying back and forth with breakfast, no amount of which seemed, in the least, to quell the loud calls for more.

On the fourth morning, five o'clock came amid clouds, so that daylight way delayed for some time. At six, breakfast was in progress with the usual accompaniment of clamoring voices, but no signs of departure. Thinking all was safe for another day we dropped off to sleep and did not waken until eight o'clock. The Wren's house is not more than ten feet from the sleeping porch and a hurried inspection discovered one little babe that had jumped out of the box and was seated close to it; another sat in the doorway, evidently saying to himself "Dare I go out there?" My, how busy Jennie was! Moth after moth was brought home and little Number 1, sitting near the box got them all. Timid Number 2 wasn't even noticed; if he would not come out he would have to go hungry and while he occupied the whole doorway there was no chance for the ones inside to do anything but wait. Perhaps they were saying unkind things to Number 2, like "fraidy cat." Cat is a pretty scary beast for a bird so they may have just said "fraidy bird." Well, after thinking it over for nearly five minutes, No. 2 finally hopped out onto the perch but immediately got scared and hopped back into the house. In a little while it tried again and this time tumbled to the ground. Numbers three and four were very brave, hustling out in such a hurry that they too landed on the ground. No. 5 was another timid one, perhaps Nos. 2 and 5 were baby girls. Jennie was kinder to No. 5 than she had been to No. 2 for she divided the moths now between No. 1, which still sat by the house, and No. 5 in the doorway. In fact the latter got the choice bits. The three down below were left to themselves and if we had not been watching, might have had short lives. They had just hidden in the hardy border close by, when a black and white cat came along. Luckily it was a real *fraidy* cat and ran when we "scatted" it.

As No. 5 showed no signs of hurry, we took this time to make quick work of dressing and with camera in hand hurried out hoping to get a picture of some of the little ones.

The timid one had jumped or tumbled down and No. 1 was on the ground too. All five were in among the perennials and under the Lilac bush. One was easily picked up and three pictures tried but the light was not sufficient for them. 8:30, daylight saving time, is only 7:30 by the sun and clouds obscured what little sunlight there might have been. In fact rain began to fall and made pictures impossible.

All day the little brood followed their busy mother while she hunted among the shrubs for food. Off and on during the day we were able to locate them by the steady calls for more and watched them as they sometimes sat on the fence or a bush waiting for mother to come, or at other times hopped along after her.

Bengal Tiger had watched them from the sleeping porch, undoubtedly thinking what a nice tender breakfast they would make if mistress would only let him go out. Poor Ben had rather a miserable time of it, as he was not allowed to visit the garden for several days, except under strict surveillance.

An empty house always looks desolate and the two Wren houses in each of which a family of five was reared (Wrens use a new place for each brood.) are empty for another year. It is surprising how much one misses their former little occupants.

Frequently letters are received from new garden clubs asking about programs. This Summer the Utica Club has visited the gardens of many of its members and in this way obtained a good deal of very practical information. Nearly every garden has one or more plants somewhat uncommon, or at least not found in the other gardens, so that during the season the members have become familiar with several possibilities that may or may not be desirable in their own gardens.

At these meetings, which are usually held in the evening, as that seems to be the most convenient hour for all but out-of-town members there may or there may not be a regular program. If the meeting happens to come on the date for a regular meeting, a paper on whatever flower is specially in season at that time is read or a talk given. For instance; during the Iris season information in regard to that beautiful flower was presented from two standpoints, both of which are necessary to really *know* the Iris; i. e. the history and culture of it and also legends, poetry and literature about it. As far as possible this course is followed in the study of each variety. With few exceptions the flowers that people really love are those about which legends have been woven or poetry written.

This isn't practical information for a gardener? Well, all I can say for that is, I pity the gardener who wishes to know nothing more about the garden and its occupants than how to dig, weed, and sow seeds; or what fertilizers different plants need; and what sprays to use to overcome each disease and insect. It is very necessary to be practical but to be nothing more is sorry business.

THE UTICA GARDEN CLUB—*Continued*

This makes one think of the sad number of parents who feel that they are doing well by their children if they give them the practical things of life: Plenty to eat (often with little study of the body's need of a balanced diet); a place to sleep; and fashionable clothes to wear (even powder and rouge to spoil the skin, and high heels to injure the spine). But what of the books they read, the music they hear, the moving pictures they see, their friends, yes, even their studies and teachers? Parents are not good parents unless they supply the practical needs according to their income *and* join in and watch over the mental, social and spiritual life of their children.

At the garden meetings, refreshments of some simple kind are served. If the weather proves a bit chilly or the garden is not secluded enough for privacy the program and refreshments are house affairs. Sometimes the entire meeting takes place in the garden.

The water garden is becoming more and more a feature of even small gardens and their owners invariably pronounce them the most interesting feature of the garden with their combination of animal and plant life. One member of the Utica Garden Club is building a pool for a water garden in the floor of the sun parlor, where the Fish, Snails, and some of the Lilies from the outside pool will be housed during the Winter. It is certainly going to be most attractive through the long winter months.

Useful Hints for October

WHAT would you find to do in the garden in October? If this question were put to any number of gardeners, the large majority, if not all, would immediately answer, "Set out spring-flowering bulbs." That really is the most outstanding bit of work for this autumn month. It is not a light job either, if the ground is properly prepared before bulbs are put in. It should be thoroughly dug and well-enriched or bulbs cannot do their best and should not be expected to. If possible, this part of the work ought to be done some little time before the bulbs are set out. Whatever fertilizer is used should be thoroughly mixed with the soil and the bed or border dug good and deep. When the bulbs are planted, each one ought to be set in a handful of sand. This will insure against rotting and also protect from coming in too close contact with fertilizer that might burn them. Very small bulbs like Crocuses naturally do not require as much sand.

Why not try one or two new varieties of spring-flowering bulbs? Fritillaria meleagris commonly called Guineahen Flower is an attractive little plant with a drooping blossom, solitary on a stem about three inches high. The white variety is especially desirable, although a mixture would give a welcome variety if in masses, the same as other low-growing, spring-flowering bulbs;—Crocuses, Snowdrops, Scillas, Wood Hyacinths, and so on. These, and Eranthis (Winter Aconite) are seldom seen in gardens. The latter seems to be a rather uncertain quantity. One dealer says because they are set too deep. Two-and-a-half inches is right. The bulbs look like withered up bits of root and perhaps amateurs do not get them right side up.

Trying something unknown is like experimenting, and is a case of "Nothing venture nothing have."

When the bulbs for spring bloom arrive there should be some among them for winter-flowering in the house. These should be put in pots the latter part of this month and set away in the dark. Probably in a cool, dark corner in the cellar will be the most convenient place. A few might be started early enough to get a good root growth and be brought into the light in time to develop and flower for Thanksgiving.

As furnaces, steam heaters and their like, are in operation during October in this region, House Plants ought to be inside by the first of the month, to become used to changed conditions. They need plenty of fresh air, so that windows should be kept open as much as possible. If the season is a normal one, open windows are welcome to humans as well as House Plants during the greater part of the day.

A great deal of digging is in line during October; taking up Dahlias, Gladioli and winter vegetables; provided one is fortunate enough to have room for the last mentioned.

Some excellent authorities advise digging Dahlias so carefully that a great deal of soil clings to the tubers and prevents them from becoming too dry during the Winter. In case of large plantings such a method would hardly be practical, as too much room would be required for storage purposes. However in a small garden where clumps are numbered by the dozen or two only, and storage has to be made in a warm cellar, this way might mean the difference between success and failure. Whether the soil is removed or not, the clump of tubers attached to the old stalk ought to be packed away with the stalk inverted to drain out moisture and prevent rotting.

Some people store Gladiolus corms without cutting off the withered leaves, which is a very foolish practise. Dealers cure and clean the corms and amateurs should do the same. It is a simple matter to cut off stems, spread the corms out to dry, and then in a few weeks remove both roots and old corm. This has to be done before planting in the Spring so why not now?

A couple of years ago a Utican hired a man to set out several hundred of Gladioli for him. They had been stored during the Winter, stems and all. It must be no directions for properly preparing the corms were given, for on returning home at evening the owner discovered that his "Glads" had been planted well on their way to China, stems and all. "It was an awful job to dig deep enough to cover such long stems." Indeed it must have been. Most workmen would have gone on a little private strike over such an undertaking.

A very satisfactory way to plant Tulips is in clumps of from eight to a dozen. Iris, Phlox or any desired later-bloomer can be placed between the clumps. Many people set Tulips in a row in the border but the effect is much less pleasing than clumps. Darwins are especially showy thus.

So many shrubs are injured during the Winter by heavy falls of snow, especially if they are near enough to sidewalks to have snow shovelled on to them, that they should be carefully staked and tied. If there are children to play in the snow it would be safest to use stakes long enough to show above possible snow piles. Children love to jump off piazza railings and other high places into the snow. Of course they should be taught not to do this where there are shrubs but a tempting snow pile sometimes causes forgetfulness among the best of small fry. High stakes will prevent accidents to both children and bushes.

It is rather early to do much covering up, but Roses can be staked down and made ready for blankets in colder November. Leaves should be raked up and saved either for the compost heap or for covering. By the first of November, Mother Nature will have all of her little wild children in the forests tucked away. Her method is to let the winds blow the leaves carelessly in among the wild flowers. This is quite a satisfactory method to imitate. Leaves can be scattered loosely as though by the wind but do not overdo the matter. Too much covering is worse than none at all.

Before October is over the garden ought to be neat and nice for its winter rest. It is quite a piece of work to cut down all old stems and dead plants. Annuals must be pulled up and perennials cut down. Biennials that have bloomed are now treated like annuals. Some so-called biennials

THE UTICA GARDEN CLUB—*Continued*

will live through the Winter and bloom again, if cared for like perennials. They seem more like "short-lived perennials."

Above all do not forget the birds that are already coming to see if you wish their company during the Winter. Until seeds and berries are gone, suet will be most attractive to them. Later on seed-eaters would like a feeding-box with seeds, crumbs, etc. During October there is usually enough food for them, but they are looking forward and seeking out winter supplies.

By the close of October most of the caterpillars have hidden away on the trunks of trees or on the house, garage or fences. Now is a good time to lessen next year's supply of pests by catching them napping in their cocoons. A favorite hiding place is under the clapboards of the house. Some varieties hang the chrysalis by a little thread from leaves, twigs, and so on.

If leaves and old weeds have been used for the compost heap a good coating of quick lime would destroy both seeds and insects harbored there.

Birds have forethought as do their brothers among the human family. Assist them as you may and be rewarded by their cheer and song.

The Amaryllis Family

BY MRS. MATIE E. RHODES

THE Amaryllis, as generally known to us in Central New York, is a house plant, always attractive, and often very beautiful. It is a bulbous plant with lily-like flowers, usually bright colored, ranging through shades of pink, red and yellow, some fragrant and others not. There are some 400 known species. Natives of tropical, sub-tropical and more sparingly of temperate regions, they are particularly abundant at the Cape of Good Hope. A few species only are European.

This large family includes, in general cultivation, many well-known plants, but the relationship is probably little suspected by most gardeners. Among these are the Daffodil, Narcissus, Polyanthus, Jonquil, Snowdrop, Snowflake, Tuberose and Belladonna Lily. Then there is the common, fleshy-leaved Century Plant of Tropical America. The last, commonly cultivated as a house plant does not flower until it is eight years or more old, deriving its name "Century Plant" because it was formerly believed that it did not blossom until a hundred years old.

The Amaryllis are closely allied to the Lilies. The chief difference between them lies in the position of the ovary. In the Lilies the three-celled ovary lies within the flower-cup. In the Amaryllis the flower-cup sits upon the ovary; that is, in botanical language, the ovary is inferior. *Structurally* the difference is considerable; *apparently* it is very little.

The leaves of the Amaryllis are somewhat thick, blunt, and a shining deep-green in color, long and straight in form. The flowers are perfect, with six stamens and a pistil; the former very much shorter than the flower-cup. The flower-cup itself is symmetrical and divided into six distinct lobes, usually crimson, pink, white with a magenta tinge, or white. In rare cases it is eight-lobed. Unquestionably the flowers are cross-fertilized by insects, chiefly the bees. The honey-bee visiting them most frequently and generally early in the morning. The low position of the anthers in the flower-tube makes it impossible for the bee to pass them without powdering herself with pollen.

THE Amaryllis is not as commonly grown here in the East as it deserves to be. California catalogues offer very beautiful ones. Its many cousins are extensively grown and highly appreciated.

The Amaryllis Belladonna, sometimes called the Belladonna Lily, is a native of Good Hope. It is found in several countries of Europe, especially Portugal and Italy and has been naturalized. This plant is greatly admired by Americans; first because of its gorgeous color, and secondly because it is so rarely grown in this country. The flower derived its name from a beautiful girl mentioned by Virgil. We read, "The shepherdess Amaryllis was strong and graceful, and the beautiful color of her skin made her famous."

Now as to some of the better known kin of this beautiful plant we might mention first the garden Narcissus, known and loved by all flower lovers. Narcissi are divided into three groups according to the length of the crown. There is the Long-Crowned or Trumpet Daffodil well represented by *The Emperor;* the Medium-Crowned; and the Short-Crowned. Paper-whites are a familiar type of the last. The three groups are too well-known to need further description.

The Paper-white Narcissus, and its sister the Paper-yellow, valued as an easily grown house plant, needing only to be put in a bowl of water, the bulbs held in place by a few stones or marbles and after a couple of weeks in the dark to get a good root growth, to be set in a sunny window, are called Polyanthus Narcissus which of course simply means many flowered. Some of the garden varieties are also of this class.

The Greek word "Nark," from which Narcissus comes, signifies narcotic, and the dread Dis and Furies had this flower woven to decorate their brows. This flower was also the last token put upon the dead, because the Greeks thought that the dead gave off an evil emanation, producing dullness, madness and death. The flower was supposed to have originated by the fate of Narcissus. The story goes; this beautiful youth bound Echo's heart in love to his, but did not love her in return. She became broken-hearted and faded to a voice, which was heard in lonely places. Narcissus while lurking lazily about a spring caught sight of his own reflection in the water. He loved it, and being lured day after day to admire himself, he soon grew weak, not even taking time to eat or drink. Finally he died admiring himself, and when the nymphs came to remove the body to the funeral pyre, it had changed into a white flower, which we call the Poets Narcissus. It was a favorite among the Greek gods. Pluto in a crafty manner, is said to have enticed Proserpine into hell with its beauty and delicate perfume, which dulled her senses. Many interesting myths are woven about this flower.

THE Snowdrop is another much loved member of the family Amaryllis and well known to all. It is our only out-of-door flower that will bloom in this climate in Midwinter; that is, after the snow has come and spots are laid bare again by January or February thaws as occasionally happens. A few such warm days are all that is necessary, and the little flowers, so white, delicate and spiritual that they seem to be flakes of snow organized into flower forms, come at once to the surface. Such spots usually occur along cellar walls exposed to the morning and midday sun. Sometimes one has to peep over snow banks to find the little harbingers of Spring.

The winter bloom, however, is only casual and incidental, the true blooming period in our northern climate being March or April, depending on the season. The leaves come up with the flowers, attain their full growth later, and commonly die down in Midsummer. A double variety of this dainty flower has been developed.

We ask why does not the cold freeze these beautiful flowers? Then, we are told that in quite a number of cases men have succeeded in measuring the heat produced by plants, and they have discovered that many plants always maintain themselves at a temperature warmer than that of the air around them, and where plants do

THE UTICA GARDEN CLUB—*Continued*

resist the cold, it is because of their power to produce heat, and probably also of a power of keeping water liquid inside their living cells, though it would freeze at the same temperature outside. Undoubtedly the Snowdrop is a heat-producing plant.

A fine bed of Snowdrops is easily acquired. One needs only to plant them permanently in a sheltered place and leave them alone. They will thrive.

A decade or two ago there was another member of this family in high favor in all gardens, the Tuberose, which is in no sense a Rose nor did it ever claim to be. This flower once borne upon the crest of fashion, has so fallen in esteem, that there are few who do it honor. There are two causes for its decline; the almost sickening sweetness of the flower, which many cannot endure, and its funeral associations.

As I have said there is no relation between the Tuberose and the Rose family. It's name is merely a corruption of the scientific name "Tuberosa" given it because it springs from a tuber-like rootstock. The slender stem, often three feet high, bears clusters of stiff, white blossoms, and six or eight sword-shaped leaves.

Although a native of tropical Asia and America, it is now cultivated in France, Italy and the United States. The factories of France are said to use 80,000 pounds of Tuberoses annually in the manufacture of perfume.

Life's Aftermath

Old age a tragedy? They tell me so,
The men and women in whose hearts the glow
And flame of youth have died to ashes gray
As hearth-fires coldly fade at close of day.

But when hands grow more skillful, brain more keen,
As o'er the head there steals a silver sheen
And manners gained from years, a mellow charm,
As fruits grow luscious in the sunlight warm;

The tragedy becomes a lyric sweet,
When measured by the softly pacing feet
That moving slowly down the sloping path
Find thick on either side sweet aftermath.

When one looks forward where the shadows sweep
Across the valley, lying still and deep
Below the heights, and knows that they are cast
By glowing sunlight though the noon is past;

And sees beyond, across a sunlit plain,
The footpath winding through the ripened grain;
No tragic hint lies in the shadow's way,
'Tis but a grateful rest ere glorious day.

ADELLA PRESCOTT

"Looking Around"

NO MATTER how charming and satisfying one's own back yard may be, it is always interesting and instructive to get outside and "see what other folks are doing"; and it was my good fortune this Summer to spend the first two weeks of June in north-eastern New Jersey in a section containing the summer homes of many wealthy New Yorkers. As my own home is in a section somewhat deficient in multi-millionaires I was much interested in the display of landscape architecture which was at its best, perhaps, at that time.

Everywhere were Rhododendrons, banked against buildings and massed along boundary lines, and such Rhododendrons! Six to eight feet was a common height, while ten or twelve was not unusual, and now and then one aspired even higher. I was amused to see that by far the larger part of the blooms were the despised magenta in color, but of a soft, bluish tint that was very attractive, (I like magenta,) but there were also white and many shades of pink and an occasional blood-red,—a color pleasing when by itself, but inclined to be quarrelsome if set too close to its neighbors.

Another flower almost equally in evidence was the Iris, either *Maori* or the improved variety called *Iris King*. Very few Iris of other colors were seen, but few places were without their masses of this gay variety, and for landscape purposes it could hardly be surpassed; but it seemed rather a pity that so many of the smaller homes followed the example of their wealthy neighbors in the planting of this variety when so many more charming kinds would be equally suitable for the smaller places. The constant repetition cheapened the effect of all. *Why* are people so afraid to be original?

The Lemon Lily seems to occupy the third place in the affections of the landscape architect, and here again the little garden follows as close as may be on the heels of the big estate. Beautiful as many of these large places are I missed the individuality of the smaller places to which I am accustomed. Perhaps a closer contact would have revealed it, but from the highway there was a depressing sameness.

But a tree which I saw in two or three places only, aroused all the interest that Rhododendron and Iris had ceased to inspire. It has catalpa-like leaves and great clusters of wisteria-colored flowers that are deliciously fragrant. This tree grew near the Hudson River and had apparently run wild, if it were not a native. No one I asked could tell me anything about it, but from the description in the tree guide I decided that it was Paulownia—a relative of the Catalpa family, and I have since been told that it is common in the vicinity of Washington, D. C., and it is there called blue-flowered Catalpa. The largest one that I saw was twenty-five or thirty feet high. I said twenty-five but the men of the party said thirty. *I* think it was twenty-five.

ADELLA PRESCOTT

A Leafless Plant

A LADY told me she had a "Cast Iron Plant." It had long, thick leaves and withstood conditions like gas, smoke, darkness, drought and would grow up high or down low. In it were little buds starting from the ground and when they bloomed she would send me one to analyze.

One-flowered Cancer-root

The blossom came in a letter, broken into many pieces. I wrote her it looked as much like a smashed grasshopper as anything and I was unable to tell anything about it. Then came another specimen in a box,—unbroken.

It was a new flower to me and my reply to her follows:—"Your flower is a 'One-flowered Cancer-root or Pale or Naked Broom-Rape.' Its botanical name is 'Orobanchaceae Aphyllon fasciculatum,' the last two names meaning without leaves and growing in a bundle or tuft. This is the complete plant and does not belong to your Cast Iron Plant but lives on its roots. The seeds must have been in the soil, as it grows in open woods upon roots of trees. It is a low, parasitic perennial without leaves. It has pale yellowish scales in place of leaves. It has one to four brownish scape-like peduncles, one and one-half inches high, from an underground scaly stem one inch long. Upon these short stems solitary flowers are borne. The pretty corolla is violet-purple and delicately fragrant; its shape is globose, spreading, and one-half inch or more long; the five sepals are short and triangular; the two leafy bracts like sepals beneath corolla are pale green.

To me the curious flower resembles the Wild Ginger in shape, size and color. This species occurs only from Northern Michigan westward. Its flowering season is from April till June, but because yours was indoors it blossomed durjng the Winter."

RENA BAUER

Queries and Answers Department

Home Apple Storage

To THE EDITOR:—

Possibly through the good offices of your very valuable and much appreciated magazine, some of your large family of subscribers may be able to advise me as to the best way to store Apples in the ground for winter use. I would like to lay in about two barrels for family use, and as my cellar is heated, I have been wondering if they could not be buried in the ground in some way so that they will keep well and retain good flavor. Soil here is quite sandy and the frost rarely penetrates the ground more than two feet.

CHARLES E. DUNBAR, (N. J.)

Answer:—Apples (and winter vegetables) are easily stored in the garden. In some rural sections of the Middle West the "Potato hole" and the "Apple hole" are still to be found; and in my boyhood days, not very long ago, they were a popular institution.

Some things keep better in the ground than in any but the best storage cellars. There is no better place, for instance, to store Apples for spring use. In May we used to take out *Ben Davis* Apples with a crisp juiciness which I have never seen from any other type of storage.

The easiest way to store a small quantity of Apples is to put them into barrels and place the barrels on their sides in the highest, driest spot you can find in the garden. It saves labor in covering if the barrels are sunk for a foot or so into the ground. Cover the barrels with at least a foot of dry litter such as straw or hay and throw something over the top to keep the covering from blowing away. Just before the ground freezes throw a foot or so of earth over the pile, leaving a trench around the barrels for drainage. If more straw and little or no earth are used over the doorway it is much easier to remove the Apples in Midwinter.

This method of storage is just as effective today as it was thousands of years ago when the Chinese are known to have used it, but it is too inconvenient to be in widespread use in the Twentieth Century.

Many heated cellars have been equipped with cold rooms at little expense. Since a cold room is easily accessible at any time, no matter how stormy the weather or how deep the snow, they are far superior to any type of outdoor storage. Directions for building a storage room in the cellar will be found in the FLOWER GROWER for October, 1925.

R. A. VAN METER

Forest Fire Forecasts and Forest Fire Weather

To THE EDITOR:—

I notice in papers lately the above expression and wonder if you or Mr. Hazen can explain it. It is a new one on me.

J. B. B., (New York)

Answer:—The Weather Bureau issues something like a score of regular and special forecasts. *Forest Fire Forecast* is one of the special forecasts and is sent as a warning to Forest Rangers and others who have to do with the protection of Forests against fire. By means of such warnings they are able to take extra precautions against the start of fires and in many cases head off what otherwise might develop into a serious condition. If a small fire should get a good start it may readily develop until it grows beyond control.

Fire weather comes from the Forest workers, and is the sort of weather during which time fires grow rapidly in intensity and are more difficult to control. Hence the need for more alertness during such weather on the part of Forest Patrols and others whose duty it is to look after the Forests. Fire weather is largely the result of low humidity, high temperature, and brisk to moderately high winds. The menace is increased by a long period of dry weather when the undermath of leaves and brush becomes fully dry. Lightning with what is known as dry thunderstorms becomes a menace during such dry periods, hence the need of the Forest Fire Forecasts.

J. S. HAZEN

Growing Roses in Coldframe

To THE EDITOR:—

I wish to raise some Roses from "slips" in a coldframe. After placing them in the coldframe will they have to be watered and if so how often should they be watered? Please advise me this and also if they need any other attention until transplanted in the Spring.

A. KAHLERT, JR., (Ky.)

Answer:—Use a three inch layer of sand as propagating medium, well leveled and made firm before the cuttings are inserted. Water well when planted and put the sash on tight. Sprinkle them every day, and shade from sun until the cuttings put forth new leaves. The sash should be left on until the plants are ready to pot, which should be in November if the cuttings were inserted in August. The potted plants should be lined up in a deep frame and covered with sash for the Winter, giving extra protection with mats when necessary.

M. A. STEVENS, (Penna.)

Construction of Frost-proof Storage House

To THE EDITOR:—

I think in past issues of THE FLOWER GROWER you have given some hints on building a warm house, but have never seen anything on building a frost-proof Gladiolus storage house.

Could you not give us your experience in building and perhaps tell us how some of the large Gladiolus growers build their storage houses? I want to get all the information I can along this line.

If you know of any pamphlet or book on Gladiolus storing or the construction of frost-proof buildings that can be built at a moderate price please tell me where to get same. Perhaps there is some bulletin published on this subject.

CHARLES L. TODD, (N.Y.)

Answer:—Here is a subject on which the Editor of this magazine has perhaps had as much experience and to which he has given as much study as any man. When connected with the cold storage construction business several frost-proof buildings were built for the storage of nursery stock, Apples, and other things; and this subject is covered quite fully in my 600-page book "Practical Cold Storage," now out of print. "Bailey's Cyclopedia of Horticulture" has some extracts from this book, treating on cold storage houses.

There are two phases of bulb storage during Winter. The first is, of course, to protect against frost, or more properly speaking, temperatures which will freeze the bulbs. The second consideration is to provide a temperature and a humidity of air in the storage room which will keep the bulbs from moulding, and yet from drying out excessively. These two considerations make it necessary to construct a room which has insulated walls and ceiling; and usually, to prevent low temperatures, such a building is built partly below ground, or a cellar of a building is used for the storage purpose.

My own Gladiolus bulb storage consists of a cellar room 50 x 50 feet, which is located directly below THE FLOWER GROWER offices. The room is 6 feet, 6 inches in height; is about half below ground; and is provided with four large windows on two sides. These windows are provided with heavy galvanized wire screen, so they may safely be left open at night, when weather conditions permit, and when inside conditions demand it. The walls of this storage are of concrete, about 16 inches thick, and it has a concrete floor. The ceiling consists only of double boards, but the room above never goes below the freezing point, so that protection here against frost is unnecessary. At times of very low outside temperature for a considerable period some trouble has been experienced in preventing temperatures falling to a dangerous point, but in no case have bulbs ever frozen in this room. The temperature is maintained at a reasonably low point by opening the windows during cool nights or days, as above suggested. Care and judgment are necessary here.

This storage room is described in some detail to show that frost-proof construction is not absolutely necessary for best results.

A smaller room, about 10 feet square, in the basement or cellar of my home is used with satisfactory results; this room having two windows on two sides, and with screens so that ventilation can be practiced, as above suggested.

Storage on a larger scale, which is built exclusively for the purpose, may consist of a partly underground room, with a sorting room or storage room above it, to good advantage. If the building is a comparatively small one it is best that the ceiling of the cellar be filled with mill shavings to a thickness of eight to twelve inches. Where walls project above ground more than half their area, it may be advisable to set up studding and boards inside, filling between the wall and the boarding with dry mill shavings.

In any scheme of frost-proof protection it must be noted that the heat from the earth is usually relied upon to prevent freezing, unless artificial heat is provided and, therefore, a building partly in the ground is desirable for this reason.

A frost-proof storage may be built entirely above ground if provided with some means of heating during extremely low temperatures. Such a building should have walls and ceiling filled with mill shavings, as above suggested, not less than eight inches and, if of frame, ten to twelve inches is better.

With any plan of frost-proof storage it must be remembered that judgment on the part of the operator is very necessary. Carelessness in leaving windows open during the night, when wind and low temperature prevail, may mean a heavy loss. On the other hand if ventilation is not provided, especially early

in the season when the bulbs contain moisture, high humidity may mean mould and deterioration.

A thermometer should be provided, so that temperatures inside and outside may be known, but nothing but experience will teach the proper handling of such a storage room.

Much more may be said on this general subject, but the above is doubtless in sufficient outline so that it will be helpful to those interested. Don't fail to note that any good cellar which is well protected and has suitable windows for ventilation can be adapted to bulb storage as well as an especially constructed building.

MADISON COOPER

1926 Spring Weather on the Atlantic and on the Pacific Coasts

TO THE EDITOR:—

Our weather on the Pacific coast during the Spring of 1926 was about 60 days earlier than usual. I understand that on the Atlantic coast, the Spring of 1926 was approximately 30 days later than usual.

If these statements are approximately correct, is there any record that duplicates this, so far as known, and does this great difference indicate anything for future weather?

L. M. B., (Ore.)

Answer:—The assumption is approximately correct in first paragraph of your query about the earliness of the season on the Pacific coast and the lateness on the Atlantic coast. There can be no doubt regarding the very wide difference in the season's advancement, between the two regions.

The cause, of course, is found in the wide temperature departures with an excess in the Northwest and a deficiency over the Eastern Sections; and while the conditions have been abnormal during the present Spring, such conditions are not unprecedented. Records of temperatures in 1875 show a wider departure during the spring months, between more especially the Northwest section of our country and the upper Mississippi and Missouri valleys, where the deficiency in temperatures for the Winter and Spring far exceeded the departures during the present season. The year 1877 on the contrary showed a reversal of conditions with a very large excess over the central valleys and a deficiency in the Northwest.

Coming down to more recent years, 1917 shows a somewhat more abnormal condition over portions of the Eastern half of the United States than has been prevalent during the present season.

With reference to the last paragraph of your question: According to the best authority in meteorology at the present time, it is not believed that such occasional abnormal variations in weather conditions indicate any prospective permanent change in climate.

J. S. HAZEN

Soil for Potting Plants

TO THE EDITOR:—

I would like to learn how dirt is mixed before putting it in flower pots when potting plants, so a plant can be removed easily, dirt and all.

MRS. L. H., (Mo.)

Answer:—Instructions for preparing potting soil have appeared in numerous issues of THE FLOWER GROWER, but the main part of your question with reference to the removal of the plant and soil entire, from the pot, is covered by the statement that if the soil is properly packed into the pot and the pot kept reasonably wet, the contents of the pot can easily be removed by inverting it on the left hand and jarring it with the right hand, or perhaps striking the rim of the pot lightly on the edge of the workbench.

The main point is that when plants are potted the soil should be well packed into the pot, and after a thorough wetting the soil naturally becomes solid and will easily drop out of the pot in a cake, as above suggested.

—(EDITOR)

Transplanting Irises

TO THE EDITOR:—

I would like to ask in regard to several clumps of Irises which are already growing, and which I wish to remove and set out in a different location. When will be the best time to take out these roots, and just how should they be taken up and divided?

C. H. B., (N.Y.)

Answer:—The Iris makes its growth early and soon after the blooming period is the best time to transplant. This ordinarily is in July and August, but as the season is very late in New York, the month of August or early in September will perhaps be the right time this year.

If set in Midsummer or early Fall the Iris makes root growth during the fall rains and establishes itself firmly and even may make considerable top growth before the ground actually freezes. Under these conditions the plants will make very rapid growth as soon as the frost is out of the ground in the Spring and some representative bloom may be expected, although not all varieties bloom the first year after setting.

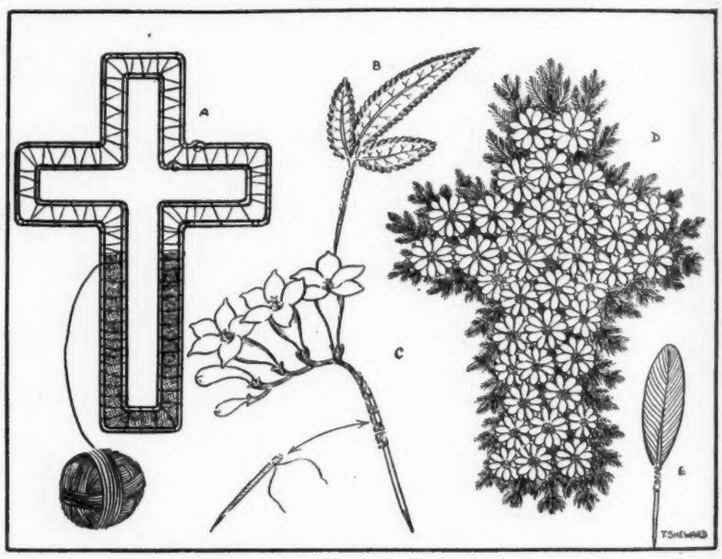
The taking up and transplanting of Irises is about as simple a matter as anything in horticulture that I know of. It is only necessary to loosen the old clumps with a spade or shovel and they can easily be divided with the hands for the most part, but sometimes a pruning knife is useful. The tops or foliage should be cut off with shears to within about three or four inches of the rhizome. The most of the foliage will die down anyway, so that it is best not to leave too much on the plants. The bulbous part should be set only just covered with earth with the roots spread out and extending as deep as practicable.

A good way to set Irises is to set them in a row, in a trench made with a wheel hoe with a mould-board-plow attachment. This will open a trench about three inches deep and in this way Irises can be set very rapidly. Don't forget that the bulbous part of the plant should not be covered deeply but only slightly, but that the roots should be spread out and extend as deeply as practicable. Irises can be set, as above suggested, very rapidly.

Each division can have one set of leaves, or two, or three or more sets of leaves,—it depends on how the clumps naturally divide. Usually one set of leaves is all that is considered necessary, but where the plants are reset in the same garden it may be desirable to make the divisions larger so as to get a bigger display of bloom in a short time.

It is important that Irises be planted in well-drained soil. In heavy soil, or where the ground is inclined to be flat sometimes the plants are set on a ridge, which is thrown up several inches high, so as to avoid standing water at any

How to Make a Floral Cross



The Floral Cross, illustrated at D, is made in the same way as the Wreath illustrated in the September number. Two wire Crosses are made and fastened together with string, A, then grass tied over it, or moss, or hay.

Dip in water for a few minutes, then tie on a background of Evergreen, (Fir, Cypress, Hemlock,) and over this common flowers, such as Shasta Daisy, before setting in flowers wired to toothpicks. Fasten the choice flowers to long wires or wired toothpicks, B, C, and place carefully over the design.

Floral Anchors and many other designs can be made in same way after a little practice.

time. Irises are more tolerant of drought and dry conditions than they are of moisture.

MADISON COOPER

Peony Bloom the First Year After Setting

TO THE EDITOR:—

Will Peonies bloom the next year when planted in the Fall?

T. J. TAYLOR, (N. C.)

Answer:—Little can be expected from Peonies the first year after planting, unless one or two-year old undivided clumps are planted, and even then the shock of transplanting and loss of root system may result in little or no bloom. The standard three to five eye divisions should, if planted early, give something in the way of bloom the next Spring after planting. The smaller divisions of one or two eyes, are less likely to produce bloom the first Spring after setting.

Questions and Answers Asked and Answered by Readers

Readers who can assist by giving general or special information will confer a favor on the inquirer, as well as the Editor. A brief statement of facts and definite information is desired.

QUESTIONS

ASTER STEM-ROT

Do you know of, or can you ascertain any remedy for the "stem-rot" of the Aster plant? For the last four years this disease has been with us, and it is so universal now, in our section of Wisconsin, that the growing of Asters has practically ceased. The plant is attacked from four-inch size up to two feet in height. The stem gets brown just at the soil, and then proceeds upwards, and in a few days the plant wilts. We have done everything possible recommended thus far, such as spraying, mixing soil with coal ashes, changing to new soils, but with no results. It is too bad to have to abandon the Aster. Large Aster growers write me they are losing them by thousands.

H. C. BADE, (Wis.)

STORING DAHLIA ROOTS

Will some one give me a safe way to hold Dahlia roots, that are grown from plants, in good condition over the Winter?

I have quite a number growing from plants instead of roots this Spring that I wish to save if possible for next spring's planting. I have found that in storing, these plants grown from tubers dry up and die before the next Spring. "Thanks" for any information.

R. A. KNISELY, (Penna.)

NATURALIZING PAPER-WHITE NARCISSUS

I am writing to ask whether the Paper-white Narcissus may be expected to become naturalized in Georgia, and continue to bloom from year to year? During the Winter of 1924-25 I planted a row of three dozen bulbs which grew off well and bloomed abundantly in the Spring of 1925. The following Winter they sprouted normally, seemed to grow

Combined Individuality and Value

By The Architects' Small House Service Bureau of the United States, Inc.

THIS home, design 6-B-4, shows the modern trend in home building for small homes of individuality and distinction. It is an ideal combination of features that make for convenience and comfort with unusual design. Graceful well-balanced arches form the entrance to the front hall and to the comfortable porch. Every room is of good size, well-lighted, and livable.

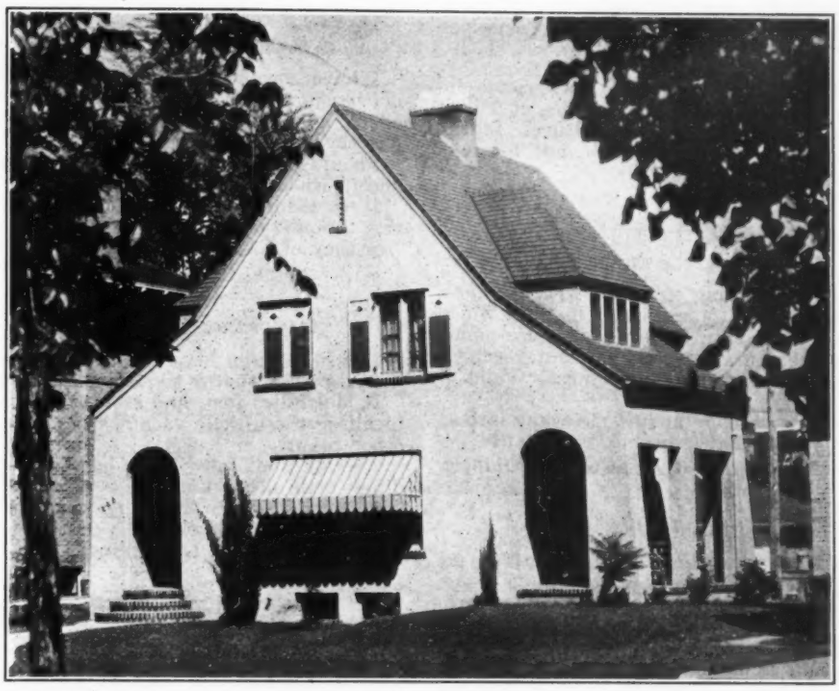
In this design, even the hall has individuality. It is ample in size, with beautifully arranged open stairways and large triple window. The large opening from the hall to the living room permits a delightful view across the living room into the cool, shadowed porch. A fireplace, and a group of four windows in front, add greatly to the distinction of the good sized living room. In the side entry there is both a broom closet and a coat closet.

A CLOSET FOR EVERYBODY

On the second floor there are three good bedrooms, bath and five closets. Two of the bedrooms are exceptionally pleasant. The third one is of good size and well designed.

Counting over the advantages of this plan one cannot fail to see that they mount up high. A paved porch, a grade entrance, a vestibule, stair hall, fireplace, plenty of closet space and many windows—and above all a plan well thought out for convenience and beauty. The exterior does not suffer by comparison, for its well balanced walls and roof lines show the hand of the expert.

Altogether this house possesses many exceptional features. It is designed for those who desire a home that is refined and that differs from the usual type of small home.



Copyright—The Architects' Small House Service Bureau of the United States, Inc.—Home Plan No. 6-B-4

MATERIALS USED: Frame construction, with stucco finish on metal lath. Trim, hard-burned flash brick; shingle roof.

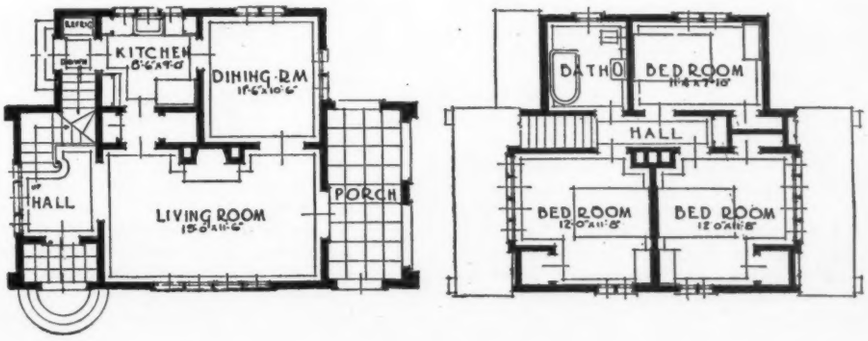
WIDTH OVER ALL: 35 ft.

DEPTH: 24 ft. 3 in.

APPROXIMATE SIZE OF LOT: 50 ft.

FACING: The plan, as shown, is designed to face South or West. It can be reversed for other facings.

BASEMENT: Under entire house, except the porch. Contains a well-lighted laundry.



off well, but only two of them produced flowers.

An old lady friend here told me they may not ever be expected to bloom again after the first season. This seems unreasonable and I am asking for information.

I am quite sure the bulbs did not fail to get anything they needed,—in fact, they grew off as well the second season as they did the first, but produced few flowers. The bulbs were spaced eight inches.

R. H. W., (Ga.)

TULIP AND DAFFODIL INFORMATION WANTED

I would be pleased to have some information on the best varieties of Tulips and Daffodils and their culture. I have never grown either before, but I intend to plant some this Fall.

C. W. MARTIN, (Ont.)

CANNA TROUBLE

I am having trouble with Cannas. There seems to be a borer in them which eats himself out. The stalks are sometimes eaten completely off, but I cannot find any worm or anything. Could it be the Corn borer?

Can some one advise me what is best to do and what is probably the cause?

WM. C. HANKAMMER, (Ohio)

LILY INFORMATION WANTED

I have Madonna Lily bulbs given me and do not know how to handle them. Will some one please tell me how to prepare the ground and plant the bulbs?

I also have Goldbanded Lilies given me and would like the same instructions about these. I put them in a box for the Winter because there are many moles. Can I leave them in the box for the Winter in the cellar, or do they need to freeze in the ground in order to bloom well? Any information in answer to the above questions will be appreciated.

MRS. D. W. WARD, (Ill.)

VARIETIES FOR CUT FLOWERS

A reader in Southern California wants a list of the best Dahlias and Gladioli for cut flowers for fancy trade. Also, a list of plants to be grown from seed for the same purpose, having in mind the furnishing of cut flowers for restaurants, hotels, etc. Will someone offer definite suggestions?

PLANTS ADAPTED TO THE SOUTH

A lady in Alabama wants suggestions as to plants and varieties of plants especially adapted to Southern climates.

Won't some of our friends in the South who have had success in growing flowers tell us some of their experiences and give any specific information possible as suggested?

—(EDITOR)

TULIPS AFFECTED WITH ROT

In the Fall I fill up the beds with Tulips, both Early Flowering and Darwins. They were wonderful this Spring and after the blooming season I dug up as fine a lot of *Kaiser Kroons* and *Belle Alliance* bulbs as you would care to see,—fine and solid, with a generous increase.

These were thoroughly dried, cleaned, and put away as usual in paper bags in a cool, dry place, but, upon inspecting them, I have found that they are all attacked with a dry rot. On the outside of the husk is a fine, yellow powder, and the bulbs have cankerous, dry, chalky spots on them, in the advanced stages, eating into the heart of the bulbs. It is evidently a fungus disease. Only these two varieties, which were in a separate bed seem affected.

Can you advise me what I can do with them?

W. F. C., (N.J.)

CYCLAMEN FAILED TO BLOOM

I have some Cyclamen bulbs that did not bloom for me last Winter. They are about as large as good sized marbles. Are they too small to produce blooms?

Should they be in rather small pots and in what kind of soil?

I set them to the north of the house this Summer and all the leaves died off. Are they of any further use now?

MRS. C. W. T., (New Mex.)

WANDERING JEW HARDY?

I have a large leaved Wandering Jew in my garden that is perfectly hardy.

It multiplies fast, and seems to delight in filling those little vacant spots around other plants.

Are all kinds hardy? Or how does this differ from other kinds?

It makes lovely hanging baskets or fillers for porch boxes.

MRS. L. L. LITTLEFIELD, (Md.)

ANSWERS

TRANSPLANTING MAIDEN HAIR FERN

In one of your numbers, I saw a request from some one for information on how to transplant Maiden Hair Fern. We took up about a dozen roots several years ago, in the Fall, (September I think it was,) and brought a lot of the leafmold along and planted it in a shady corner with northeast exposure. It has survived two severe Winters, with a light protection of straw one year, leaves the other year, and this Summer is most luxuriant, far finer than those in the woods.

MRS. ARTHUR F. STEVENS, (N.Y.)

POISON IVY AND VIRGINIA CREEPER

In the August number, George P. Hammond, (Ohio) asks concerning the difference between Poison Ivy and Woodbine (Virginia Creeper). I have both on my grounds.

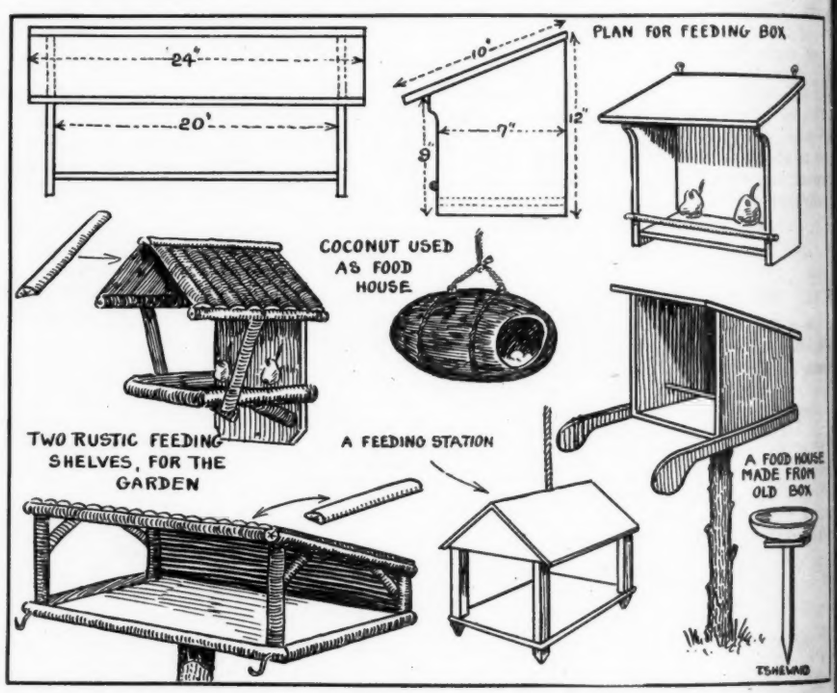
The only way to positively identify Poison Ivy (other than by touching) is to count the leaves,—*always* in clusters of three. The two plants are much alike in coloring, both now and later on when autumn colors are flaunted.

Poison Ivy's fruit is a dirty-white berry, growing thickly and close to the branch. I have used it as a winter decoration on my mantel. It is beautiful.

Woodbine has a purple-black fruit, that drops easily from the stem.

Wearing canvas gloves, I can pull

Feeding Shelves for Birds in Winter



To attract Birds about the house in Winter, feeding shelters should be made, and placed in different parts of the garden. All kinds of material can be used to construct the shelters, from dressed lumber to rough branches used to build rustic shelters, as illustrated. The feeding box, plans of which are given for construction, is made from half-inch dressed lumber, and afterwards covered with Cedar bark. Cut out the parts to the sizes given and assemble.

Poison Ivy roots which grow close to the surface, but reach for yards, with much branching.

Using yellow kitchen soap before and after working with it is an effective antidote.

M. H. H., (Penna.

STEM-ROT IN ASTERS

Note H. J. M.'s, (Ill.,) question with reference to Asters, Snapdragons, and Sweet Williams.

Stem-rot was probably caused by too much watering with the hose. In my rather heavy soil I have found it necessary to eschew sprinkling altogether with the above mentioned plants. Asters especially will stand considerable drought without harm. If it becomes necessary to give the above plants water, irrigate in such a way that all surplus water will readily drain off. I have had the same trouble with the above plants, but by liberal use of lime, irrigation only when water is necessary, and by putting the plants in a well drained place have overcome the trouble.

Lime is necessary for both Asters and Snapdragons in my belief, though I have never heard anyone advocate the use of lime for Snapdragons. I always give Snapdragons a top dressing of lime when they form buds.

H. J. M. need not fear planting in the same place if the spot is well drained.

S. T. CARTER, (N. C.)

NARCISSI FAIL TO BLOOM

Let them stand undisturbed another year. If then they do not bloom, dig when the leaves die down, probably in June, and reset, either at once, or in September.

I suspect these bulbs were dug or set out of season, but the bud formed for the first year and did not get sufficient foothold on the soil to form buds for the second year. I suspect the bulbs were dug either in Fall or in Spring. Different types of Narcissi vary in their routine of bud and root formation, which

Japanese Art Screen Calendars

I really do not know why I ordered 1,000 Japanese art screen calendars as I had no particular place to put them, nor any particular object in view, although I did have in the back part of my head a notion that FLOWER GROWER readers would be interested and attracted by the same art that attracted me.

Anyway, I have in hand some rather striking examples of Japanese art in the form of the so-called screen calendars. They are of thin narrow strips of wood sewed together like Venetian blinds. The largest is 12 inches wide and 18 inches high. The background is of bright rose color, on which is a striking flowering branch of a tree, supporting a gaudy-colored Parrot. The smaller of the two is 7 inches wide and 18 inches high. The background is a bright pea-green on which is a country villa with a mountain in the background and with many bright blooming shrubs in pink and white.

These calendars have absolutely no advertising matter on them, and they have attached a little pad of monthly calendars for 1927. They make attractive presents either as they are or with the addition of home talent art or hand-lettering, or a suitable motto or verse.

Every one who sees these calendars is attracted by the bright and striking color contrasts which are not equalled by anything produced in this country.

Each calendar is mailed in a special envelope and will have an outside wrapper so that the envelope can be used for remailing if desired.

I have decided to give these calendars to those who will secure new subscriptions to THE FLOWER GROWER, and will send one of the larger ones and one of the smaller ones for each new subscriber remitted for at the regular rate of $2.00. In a club of three one of the subscribers may be a renewal, and the club of three will entitle you to three each of the larger calendars and three each of the smaller ones.

An exceptional opportunity to secure a good example of Japanese art.

The calendars will not be sold, but will only be given to those who secure new subscribers, as above.

MADISON COOPER, Calcium, N.Y.

The Aquarium,—Part V,—Water Plants

BY THOMAS SHEWARD

LOCATING THE TANK

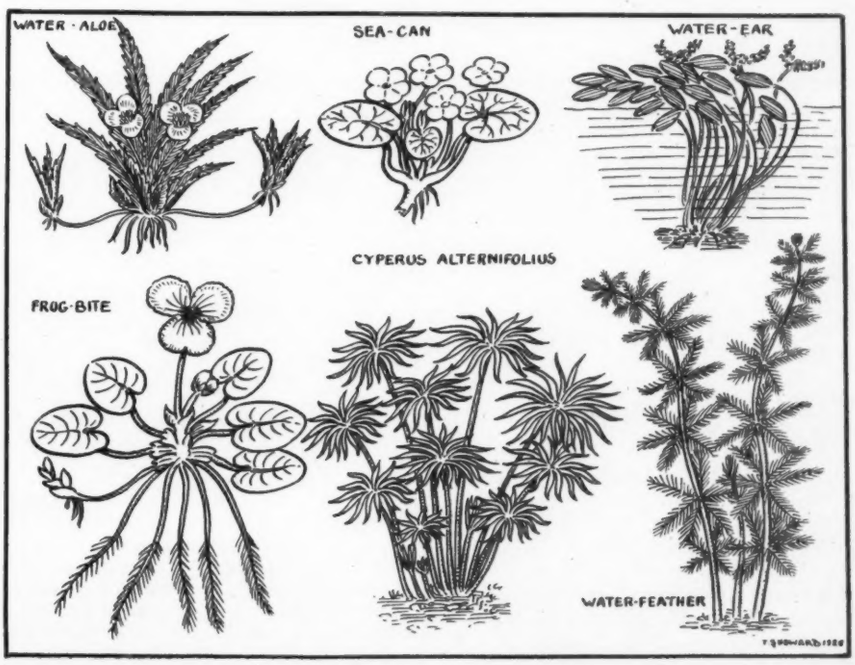
THE Aquarium should be placed near a window where there is plenty of light, as this is necessary for the growth of the Plants; also is best for many of the Fishes. It should be placed where it will not get too hot or too cold, and strong sunlight must be avoided. An Easterly position, or one facing North is good; but if this cannot be obtained, the tank should be shaded on hot days. Strong sunlight causes rank growth of Aquatic Plants, also stimulates the growth of low vegetable forms known as algae, which soon fill the tank. The water should be maintained at an even temperature as near as possible, for sudden changes are very dangerous to many Fishes. 60°-65° is about right. When the water becomes very warm in the tank, it does not hold air so well, and many Fishes die.

CARE

After the Aquarium is established it is necessary to feed the Animals and Fishes, and to keep sides of the glass tank clean. For this purpose a small mop is made with a piece of felt tacked to a flat stick, and the glass is gently rubbed to remove any algae which adheres to it. If it is necessary to remove Fishes or other objects, this is done with a small net made from a piece of wire and string. A floating thermometer is also useful.

FOOD

Fish feed all the time, and many varieties will overeat if too much is given. Feeding must be a matter of judgment. Food consists of flies, ant eggs, and fine scrapings of beef. Some Fishes feed on the water plants.



would explain lack of uniformity in the action of the different types. Narcissus bulbs should be dug in Summer, and considerably before the end of Summer.

It is possible the location is too heavily drawn upon for food and moisture by trees or shrubbery close by. The behavior of the bulbs next year would give an answer to that.

BENJAMIN C. AUTEN, (Mo.)

Presents for Your Friends

It is customary about this time of the year for me to make suggestions to readers about presents for their friends at holiday time. This year I suggest not only a subscription with or without the bulbs, or Irises, as per announcement on page I, but there are the Japanese Screen Calendars told about on page 471.

If you send subscriptions to your friends and get the Japanese Calendars as a premium you can make two presents for the price of one.

MADISON COOPER

Lawn Seeding

FALL SEEDING ADVOCATED

Establishing new lawns or rejuvenating old lawns may well be done in the Fall of the year according to the seed analyst at the New York State Agricultural Experiment Station at Geneva who advocates fall seeding because the grass becomes established and can make an earlier start in the Spring when sown at this season.

Aside from the time of seeding, the battle is half won in making a good lawn with the use of clean, vigorous seed mixtures containing the right kind of grasses for lawn seeding, declares this authority who warns against the dangers of poor lawn grass mixtures.

Many mixtures have been placed on the market as lawn grass mixtures which, upon examination at the State Seed Laboratory, have been found to contain a high percentage of chaff and dirt and many kinds of weed seeds, and to be made up quite largely of grasses entirely unsuited for a lawn.

The purchase of high grade Kentucky bluegrass seed and redtop seed and mixing them at home at the rate of two parts bluegrass to one part redtop is advocated as an excellent means of securing a really desirable general purpose lawn grass mixture. A small amount of white dutch clover may be added to the mixture if one likes clover.

The Station seed specialist recommends that this mixture be sown at the rate of one-half ounce per square yard for old lawns or one ounce per square yard for a new lawn and should be raked in lightly.

Bailey's Cyclopedia of Horticulture

The new three volume edition at half the price of the old six volume edition, but containing all of the matter in the original, can now be had at $20.00 in the U. S. and $25.00 in Canada. (The original price was $40 in the U. S. and $50 in Canada.)

At this price no student of horticulture can afford to be without this most valuable reference work. It contains in compact form a thorough presentation of the kinds, characteristics and methods of cultivation of the species of plants grown in North America for garden purposes, not only in flowers, but in fruits and vegetables.

Bailey's Cyclopedia meets every need of the commercial and professional horticulturist, and is at the same time admirably adapted to the most exacting requirements of the amateur.

3600 pages—thousands of illustrations. Gives 20,000 species and 40,000 plant names.

Send orders to

THE FLOWER GROWER,

$20 in the U. S. $25 in Canada. Calcium, N.Y.

PEONIES

Cornelia Shaylor and sixty other fine sorts, mostly undivided, one-year plants at price of divisions. Write for list. Prices low. Some Irises too.

GEO. S. WOODRUFF

Independence - - Iowa

J. B. & J. S. WHALLEY

GROWERS OF CHOICE GLADIOLUS

P. O. Box 511 PORTLAND, OREGON

It is not too early to make your wants known. If interested in bulbs of the choice new and standard varieties, drop us a list of your needs. We will be glad to quote you a digging time price on the lot. Those who bought from us on this plan last year found it very much to their advantage. Write now.

Write for Our List of

"WORTH WHILE" PEONIES IRIS and GLADS

A. G. BRITSCH, Prop.

WALES ROAD GARDENS

Sta. A-Box 53 TOLEDO, O.

October Peony Bargains

9.1	Baroness Schroeder	$1.00
8.3	Cherry Hill	5.00
8.4	Chestine Gowdy	2.00
8.5	Clemenceau	7.50
9.5	E. B. Browning	5.00
9.1	Francis Willard	2.00
8.9	Georgiana Shaylor	4.00
8.6	Judge Berry	7.00
9.2	La Fee	7.50
8.6	Margaret Gerard	1.00

There are plenty more bargains in our retail list. We have a bargain list for dealers too of Peony and Iris.—Quality Guaranteed.

WAHOO LODGE GARDENS

Box 915 Sioux Falls, S. D.

IN GLADIOLUS

Rita Beck and Minuet are two of the most outstanding varieties today. You can't lose on these. Better get started now as they will positively not be cheaper this season. Bulbs $10 each; bulblets $1 each.

DELPHINIUMS

I showed these at the Boston Glad Show and they created a sensation. They were by far the best there. I don't believe there are any better in the country. At least that was what I was told by people who have paid high prices for named varieties. $8 a dozen for strong one-year plants; $4 for 2-year plants.

Send for complete catalog which will be out soon. It is one of the best published. Every gladiolus and delphinium grower should have it. Retail and wholesale.

CHAMPLAIN VIEW GARDENS

Elmer E. Gove, Burlington, Vermont

GOLDEN DREAM

The best yellow in commerce; tall, strong, prolific. All sizes. Guaranteed true to name.

SMOKY

The artistic cut flower. All sizes.

EMILE AUBRUN

First size only. I ship to U. S. A. Write for wholesale prices. Retail catalog February 1st.

J. W. CROW GLADIOLUS
Lynnwood Ave., OUTDOOR ROSES
SIMCOE, HARDY LILIES
Ontario IRISES

WHY NOT GROW THE FINEST PEONIES AND IRIS?

Unexcelled Collection of Peonies for $5. One plant each of Le Cygne, Martha Bulloch, Therese, Solange, E. B. Browning, Lady Alexander Duff and Longfellow 3-5 eye divisions.

COLLECTION I FOR $3.00

Six Peony roots, 2-5 eye divisions, 2 roots each of any 3 of the following varieties: Felix Crousse, Festiva Maxima, Edulis Superba (the best early pink), Baroness Schroder, Pres. Roosevelt, Princess Beatrice (74 lilac rose) and Livingston. No charge for packing.

Unnamed varieties of Peonies, grown for cut flowers, the best varieties, 6 for $2.00. Red, white and pink; can supply light or dark pink.

All collections sent by express, not prepaid, or by parcel post if 50c postage is sent—excess will be returned.

The previous prices for Iris collection still hold.

Send for Price Lists

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GEORGE SPITZER,

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